VPDES PERMIT PROGRAM FACT SHEET
FILE NO: 651

cument gives pertinent information concerning the VPDES Permit listed below. This is being processed as a **MINOR INDUSTRIAL** permit.

PERMIT NO.: VA0024741

EXPIRATION DATE: November 2, 2009

FACILITY NAME AND LOCAL MAILING ADDRESS

NASA Langley Research Center
Mail Stop 213 Building 1229
Hampton, VA 23681

FACILITY LOCATION ADDRESS (IF DIFFERENT)

CONTACT AT FACILITY:
NAME: Philip L. McGinnis
TITLE: Environmental Engineer
PHONE: (757)868-2073

CONTACT AT LOCATION ADDRESS
NAME: SAME
TITLE:
( )

3. **OWNER CONTACT:**
NAME: Ms. Lesa B. Roe
TITLE: Director
COMPANY NAME: NASA Langley Research Center
ADDRESS: 1 Langley Blvd
Hampton, VA 23681
PHONE: (757)864-2073

CONSULTANT CONTACT:
NAME:
FIRM NAME:
ADDRESS:
PHONE: ( )

4. **PERMIT DRAFTED BY:** DEQ, Water Permits, Regional Office

Permit Writer(s): D.L. Thompson Date(s): 6/22/09
Reviewed By: Sauer (ms) Date(s): 8/26/09

5. **PERMIT ACTION:**

( ) Issuance (X) Reissuance ( ) Revoke & Reissue ( ) Owner Modification
( ) Board Modification ( ) Change of Ownership/Name [Effective Date:]

6. **SUMMARY OF SPECIFIC ATTACHMENTS LABELED AS:**

Attachment 1	Site Inspection Report/Memorandum
Attachment 2	Discharge Location/Topographic Map
Attachment 3	Schematic/Plans & Specs/Site Map/Water Balance
Attachment 4	TABLE I - Discharge/Outfall Description
Attachment 5	TABLE II - Effluent Monitoring/Limitations
Attachment 6	Effluent Limitations/Monitoring Rationale/Suitable Data/Antidegradation/Antibacksliding
Attachment 7	Special Conditions Rationale
Attachment 8	Toxics Monitoring/Toxics Reduction/WET Limit Rationale
Attachment 9	Material Stored
Attachment 10	Receiving Waters Info./Tier Determination/STORET Data/Stream Modeling
Attachment 11	303(d) Listed Segments
Attachment 12	TABLE III(a) and TABLE III(b) - Change Sheets
Attachment 13	NPDES Industrial Permit Rating Worksheet and EPA Permit Checklist
Attachment 14	Chronology Sheet

APPLICATION COMPLETE: July 21, 2009

7. **PERMIT CHARACTERIZATION**: (Check as many as appropriate)

(X) Existing Discharge	(X) Effluent Limited
( ) Proposed Discharge	( ) Water Quality Limited
( ) Municipal	( ) WET Limit
SIC Code(s)	( ) Interim Limits in Permit
(X) Industrial	( ) Interim Limits in Other Document
SIC Code(s) 9661	( ) Compliance Schedule Required
( ) POTW	( ) Site Specific WQ Criteria
( ) PVOTW	( ) Variance to WQ Standards
( ) Private	( ) Water Effects Ratio
(X) Federal	( ) Discharge to 303(d) Listed Segment
( ) State	(X) Toxics Management Program Required
( ) Publicly-Owned Industrial	( ) Toxics Reduction Evaluation
	( ) Storm Water Management Plan
	( ) Pretreatment Program Required
	( ) Possible Interstate Effect
	( ) CBP Significant Dischargers List

8. **RECEIVING WATERS CLASSIFICATION**: River basin information.

Outfall No(s):001

Receiving Stream:	UT to Tides Mill Creek
River Mile:	7-TID000.62
Basin:	Chesapeake Bay/Atlantic Ocean & Small Coastal
Subbasin:	NA
Section:	2
Class:	II
Special Standard(s):	a, NEW-20
Tidal:	YES

Outfall No(s):002, 003, 008, 009, 012

Receiving Stream:	UT to Tabbs Creek
River Mile:	7-TBC001.59
Basin:	Chesapeake Bay/Atlantic Ocean & Small Coastal
Subbasin:	NA
Section:	2
Class:	II
Special Standard(s):	a, NEW-20
Tidal:	YES

Outfall No(s):011

Receiving Stream:	UT to Northwest Branch of the Back River
River Mile:	7-NWB002.71
Basin:	Chesapeake Bay/Atlantic Ocean & Small Coastal
Subbasin:	NA
Section:	2
Class:	II
Special Standard(s):	a, NEW-20
Tidal:	YES

Outfall No(s):005, 006, 007

Receiving Stream:	UT to Brick Kiln Creek
River Mile:	7-BRK001.56
Basin:	Chesapeake Bay/Atlantic Ocean & Small Coastal
Subbasin:	NA
Section:	2
Class:	II
Special Standard(s):	a, NEW-20
Tidal:	YES

9. **FACILITY DESCRIPTION:** Describe the type facility from which the discharges originate.

The primary mission of NASA Langley Research Center is research and development of advanced technologies for aircraft, spacecraft and atmospheric science research. Existing industrial discharge resulting from the storm water runoff and cooling tower blowdown, AC condensate, and backwash from water softener recharge

10. **LICENSED OPERATOR REQUIREMENTS:** (X) No ( ) Yes Class:

11. **RELIABILITY CLASS:** Industrial Facility – NA

12. **SITE INSPECTION DATE:** October 24, 2008 **REPORT DATE:** October 27, 2008

Performed By: Mark Kidd

SEE ATTACHMENT 1

13. **DISCHARGE(S) LOCATION DESCRIPTION:** Provide USGS Topo which indicates the discharge location, significant (large) discharger(s) to the receiving stream, water intakes, and other items of interest.

Name of Topo: Hampton & Newport News North Quadrant No.: 65 C & D **SEE ATTACHMENT 2**

14. **ATTACH A SCHEMATIC OF THE WASTEWATER TREATMENT SYSTEM(S) [IND. & MUN.]. FOR INDUSTRIAL FACILITIES, PROVIDE A GENERAL DESCRIPTION OF THE PRODUCTION CYCLE(S) AND ACTIVITIES. FOR MUNICIPAL FACILITIES, PROVIDE A GENERAL DESCRIPTION OF THE TREATMENT PROVIDED.**

SEE ATTACHMENT 3 (CAN ALSO REFERENCE TABLE I)

15. **DISCHARGE DESCRIPTION:** Describe each discharge originating from this facility.

SEE **TABLE I** (OR CAN SUBSTITUTE PAGE 2C) - **SEE ATTACHMENT 4**

16. **COMBINED TOTAL FLOW:**

TOTAL: 5.0 MGD (for public notice)

PROCESS FLOW: _____ MGD (IND.)

NONPROCESS/RAINFALL DEPENDENT FLOW: _____ (Est.)

17. **STATUTORY OR REGULATORY BASIS FOR EFFLUENT LIMITATIONS AND SPECIAL CONDITIONS:**
(Check all which are appropriate)

- X State Water Control Law
- X Clean Water Act
- X VPDES Permit Regulation (9 VAC 25-31-10 et seq.)
- X EPA NPDES Regulation (Federal Register)
- _____ EPA Effluent Guidelines (40 CFR 133 or 400 - 471)
- X Water Quality Standards (9 VAC 25-260-5 et seq.)
- _____ Wasteload Allocation from a TMDL or River Basin Plan

18. **EFFLUENT LIMITATIONS/MONITORING:** Provide all limitations and monitoring requirements being placed on each outfall.

SEE TABLE II - ATTACHMENT 5

19. **EFFLUENT LIMITATIONS/MONITORING RATIONALE:** Attach any analyses of an outfall by individual toxic parameter. As a minimum, it will include: statistics summary (number of data values, quantification level, expected value, variance, covariance, 97th percentile, and statistical method); wasteload allocation (acute, chronic and human health); effluent limitations determination; input data listing. Include all calculations used for each outfall and set of effluent limits and those used in any model(s). Include all calculations/documentation of any antidegradation or anti-backsliding issues in the development of any limitations; complete the review statements below. Provide a rationale for limiting internal waste streams and indicator pollutants. Attach chlorine mass balance calculations, if performed. Attach any additional information used to develop the limitations, including any applicable water quality standards calculations (acute, chronic and human health).

OTHER CONSIDERATIONS IN LIMITATIONS DEVELOPMENT:

VARIANCES/ALTERNATE LIMITATIONS: Provide justification or refutation rationale for requested variances or alternatives to required permit conditions/limitations. This includes, but is not limited to: waivers from testing requirements; variances from technology guidelines or water quality standards; WER/translator study consideration; variances from standard permit limits/conditions.

N/A

SUITABLE DATA: In what, if any, effluent data were considered in the establishment of effluent limitations and provide all appropriate information/calculations.

All suitable effluent data were reviewed.

ANTIDEGRADATION REVIEW: Provide all appropriate information/calculations for the antidegradation review.

The receiving stream has been classified as tier 1; therefore, no further review is needed. Permit limits have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

ANTIBACKSLIDING REVIEW: Indicate if antibacksliding applies to this permit and, if so, provide all appropriate information.

There are no backsliding issues to address in this permit (i.e., limits as stringent or more stringent when compared to the previous permit
SEE ATTACHMENT 6

20. **SPECIAL CONDITIONS RATIONALE**: Provide a rationale for each of the permit's special conditions.

SEE ATTACHMENT 7

21. **TOXICS MONITORING/TOXICS REDUCTION AND WET LIMIT SPECIAL CONDITIONS RATIONALE**: Provide the justification for any toxics monitoring program and/or toxics reduction program and WET limit.

SEE ATTACHMENT 8

22. **SLUDGE DISPOSAL PLAN**: Provide a description of the sludge disposal plan (e.g., type sludge, treatment provided and disposal method). Indicate if any of the plan elements are included within the permit.

N/A

23. **MATERIAL STORED**: List the type and quantity of wastes, fluids, or pollutants being stored at this facility. Briefly describe the storage facilities and list, if any, measures taken to prevent the stored material from reaching State waters.

SEE ATTACHMENT 9

24. **RECEIVING WATERS INFORMATION**: Refer to the State Water Control Board's Water Quality Standards [e.g., River Basin Section Tables (9 VAC 25-260-5 et seq.). **Use 9 VAC 25-260-140 C (introduction and numbered paragraph) to address tidal waters where fresh water standards would be applied or transitional waters where the most stringent of fresh or salt water standards would be applied.** Attach any memoranda or other information which helped to develop permit conditions (i.e. tier determinations, PReP complaints, special water quality studies, STORET data and other biological and/or chemical data, etc.

SEE ATTACHMENT 10

25 **305(b)/303(d) Listed Segments**: Indicate if the facility discharges to a segment that is listed on the current 303(d) list and, if so, provide all appropriate information/calculations.

TMDLs are not included in this permit as the receiving waters are not listed on the 303(d) list.

26. **CHANGES TO PERMIT**: Use **TABLE III(a)** to record any changes from the previous permit and the rationale for those changes. Use **TABLE III(b)** to record any changes made to the permit during the permit processing period and the rationale for those changes [i.e., use for comments from the applicant, VDH, EPA, other agencies and/or the public where comments resulted in changes to the permit limitations or any other changes associated with the special conditions or reporting requirements].

SEE ATTACHMENT 12

27. **NPDES INDUSTRIAL PERMIT RATING WORKSHEET:**

TOTAL SCORE: 28 **SEE ATTACHMENT 13**

28. **DEQ PLANNING COMMENTS RECEIVED ON DRAFT PERMIT**: Document any comments received from DEQ planning.

The discharge is not addressed in any planning document but will be included when the plan is updated.

29. **PUBLIC PARTICIPATION:** Document comments/responses received during the public participation process. If comments/responses provided, especially if they result in changes to the permit, place in the attachment.

VDH/DSS COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from the Virginia Dept. of Health and the Div. of Shellfish Sanitation and noted how resolved.

The VDH reviewed the application and waived their right to comment and/or object on the adequacy of the draft permit by letter dated May 27, 2009.

The DSS has no comments on the application/draft permit.

EPA COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from the U.S. Environmental Protection Agency and noted how resolved.

EPA waived the right to comment and/or object to the adequacy of the draft permit.

ADJACENT STATE COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from an adjacent state and noted how resolved.

Not Applicable.

OTHER AGENCY COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from any other agencies (e.g., VIMS, VMRC, DGIF, etc.) and noted how resolved.

The **application** was sent to VMRC and no comments were received.

OTHER COMMENTS RECEIVED FROM RIPARIAN OWNERS/CITIZENS ON DRAFT PERMIT: Document any comments received from other sources and note how resolved.

The application and draft permit have received public notice in accordance with the VPDES Permit Regulation, and no comments were received.

PUBLIC NOTICE INFORMATION: Comment Period: Start Date
End Date

Persons may comment in writing or by e-mail to the DEQ on the proposed reissuance of the permit within 30 days from the date of the first notice. Address all comments to the contact person listed below. Written or e-mail comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The Director of the DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requestor's interests would be directly and adversely affected by the proposed permit action.

All pertinent information is on file and may be inspected, and arrangements made for copying by contacting **Ms. Debra L. Thompson** at: Department of Environmental Quality (DEQ), Tidewater Regional Office, 5636 Southern Boulevard, Virginia Beach, VA 23462. Telephone: 757-518-2162 E-mail:debra.thompson@deq.virginia.gov

Following the comment period, the Board will make a determination regarding the proposed issuance/reissuance/modification. This determination will become effective, unless the Director grants a public hearing. Due notice of any public hearing will be given.

30. **ADDITIONAL FACT SHEET COMMENTS/PERTINENT INFORMATION:**

NASA Langley Research Center discharge is predominately comprised of cooling tower blowdown and storm water runoff along with several other infrequent flow sources (vehicle wash, fire truck wash water and water softener backwash brine). Make-up water for the cooling towers is the City of Newport News water supply. And this water is known to have elevated copper levels due to the treatment used (copper sulfate & zinc orthophosphate) for the potable water supply. The Cu and Zn data generated by NASA has been inconsistent over the past permit term. Review by this office does show slightly elevated copper and zinc concentrations. Knowing the source information, copper & zinc will continue to be monitored and reported; however no numeric limit shall be included in this permit, at this time. Data generation and review will allow this office to properly evaluate the presence of a pollutant closely related to water quality.

ATTACHMENT 1

SITE INSPECTION REPORT/MEMORANDUM

Facility:	NASA LANGLEY RESEARCH CENTER
County/city:	HAMPTON

VPDES NO.	VA0024741

DEPARTMENT OF ENVIRONMENTAL QUALITY
WASTEWATER FACILITY
INSPECTION REPORT
PART 1

Inspection date:	**October 24, 2008**	Date form completed:	**October 27, 2008**
Inspection by:	**Mark R. Kidd**	Inspection agency:	**DEQ/TRO**
Time spent:	**6 hours**	Announced Inspection:	[ ] Yes [X] No
Reviewed by: **Kenneth T. Raum** KTR		Photographs taken at site?	[X] Yes [ ] No
Present at inspection:	**Philip McGinnis**		

FACILITY TYPE:	FACILITY CLASS:
( ) Municipal	( ) Major
( ) Industrial	(X) Minor
(X) Federal	( ) Small
( ) VPA/NDC	( ) High Priority ( ) Low Priority

TYPE OF INSPECTION:

Routine	X	Reinspection		Compliance/assistance/complaint	
Date of previous inspection:	**April 20, 2006**	Agency:	**DEQ/TRO**		

Population Served:		Connections Served					
Last Month Average: Influent	BOD_5 (mg/l)		TSS (mg/l)		Flow (MGD)			
	Other:							
Average Effluent – 1st Semi-Annual Monitoring Period, 2008, Outfall 003	TPH (mg/l)	**<QL**	TDS (mg/l)	**380**	Flow (MGD)	**0.030**	Cu (ug/l)	**<QL**
	Other:							
Last Quarter Average: Effluent	BOD_5 (mg/l)		TSS (mg/l)		Flow (MGD)		NH_3 (mg/l)	
	Other:							

Data verified in preface:	Updated?		NO CHANGES?	X
Has there been any new construction?	YES		NO	X
If yes, were the plans and specifications approved? NA	YES		NO	
DEQ approval date:	**NA**			

COPIES TO: (x) DEQ/TRO; (x) DEQ/OWCP; (x) OWNER; ( ) OPERATOR; ( ) EPA-Region III; ( ) Other:

NASA LaRC

	PROBLEMS IDENTIFIED AT LAST INSPECTION:	CORRECTED	NOT CORRECTED
	None noted.		

SUMMARY

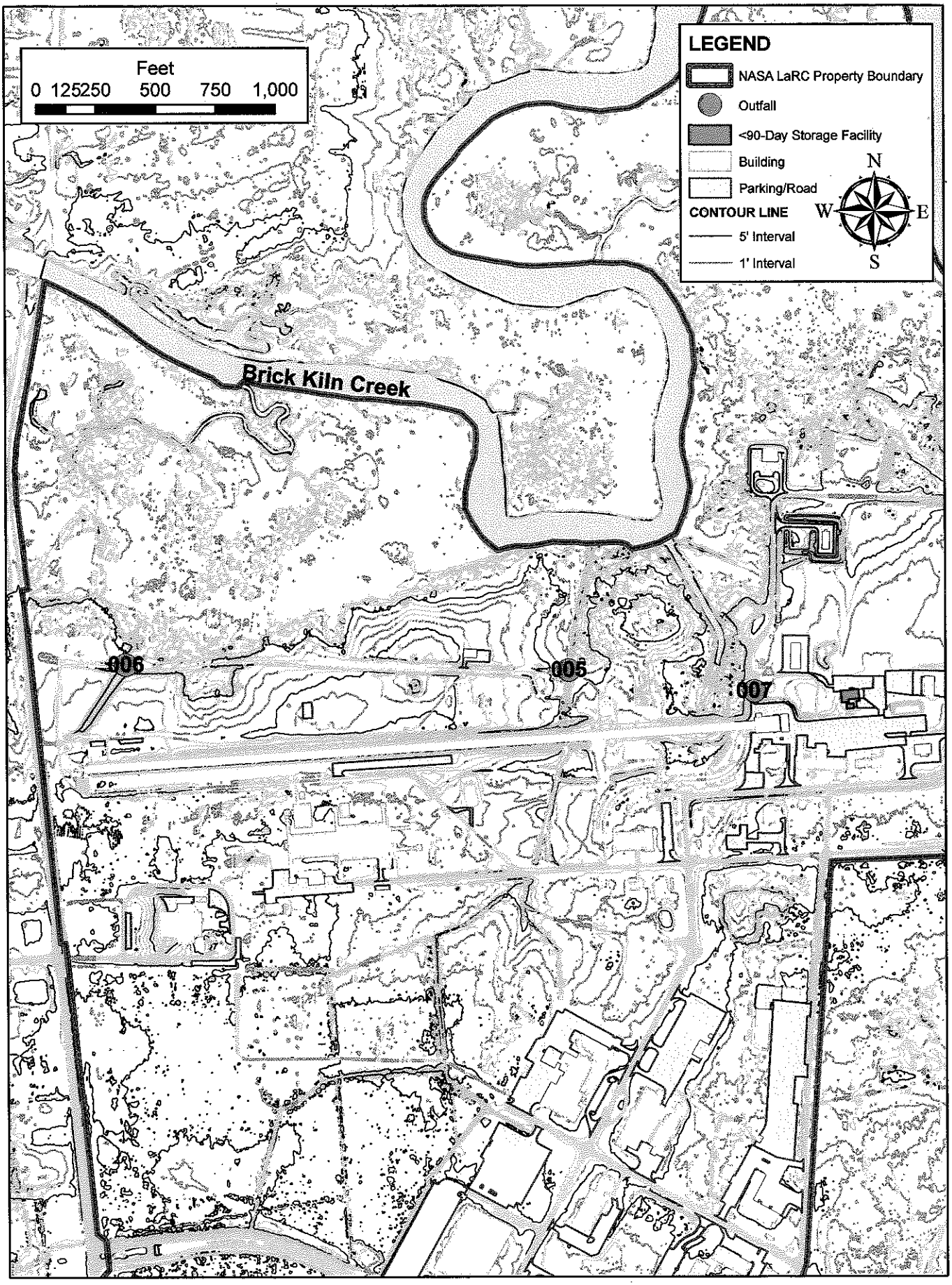
	INSPECTION COMMENTS:
	Arrived on site and met with Phil McGinnis. The Permit does not require a Storm Water Pollution Prevention Plan (SWP3). An MS4 Permit (VAR040092) issued by the Department of Conservation and Recreation (DCR) regulates storm water discharges. Mr. McGinnis asked if pressure washing of buildings was allowed by the VPDES Permit. Pressure washing building exteriors is permissible if no detergent or other chemicals are used and no paint chips are discharged. The O&M manual states that weekly outfall inspections will be performed. Inspections are performed and documented in a logbook.
	A site survey was conducted with the assistance of Mr. McGinnis. Of the twelve permitted outfalls, eight require monitoring and four discharge storm water not associated with industrial activities. Outfall 009 (Photo 3) and Outfall 003 (Photo 4) use oil/water separators before discharging. Oil absorbent pads are used and replaced as needed. Two outfalls, 004 and 010,are located on Langley Air Force Base and were not inspected. The other outfalls observed, 002 (Photo 2), 005 (Photo 6), 008 (Photo 5), 009, 011, and 012 (Photo 1) appeared clean and well maintained. Oil absorbent booms are used in many locations and no oil sheens were observed.
	Mr. McGinnis is thanked for his assistance and cooperation.

	COMPLIANCE RECOMMENDATIONS FOR ACTION
	None at this time.

ATTACHMENT 2

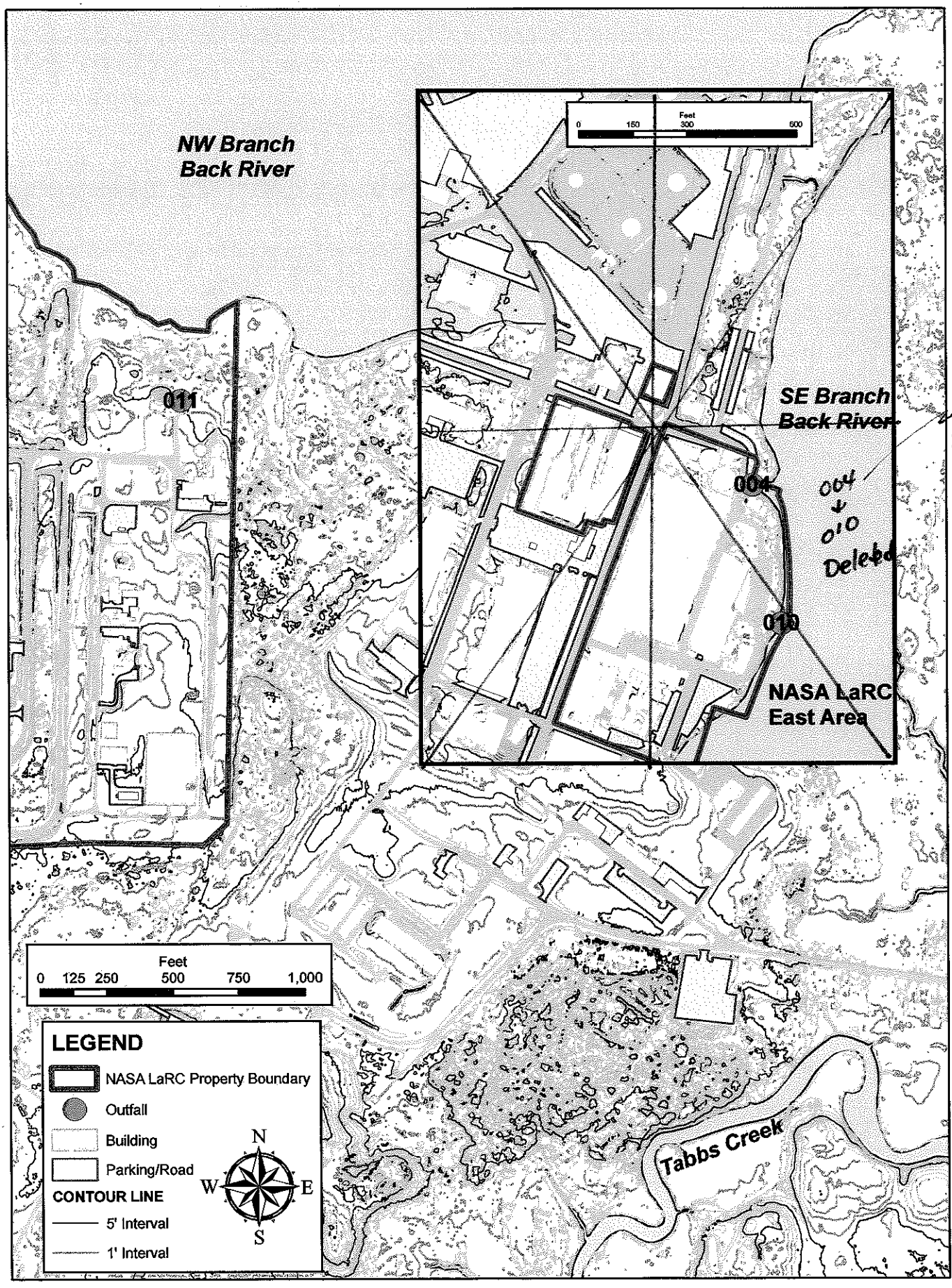
DISCHARGE LOCATION/TOPOGRAPHIC MAP

EPA Form 3510-1 Item XI. Map **QUADRANT 1**



NASA Langley Research Center, Hampotn, VA

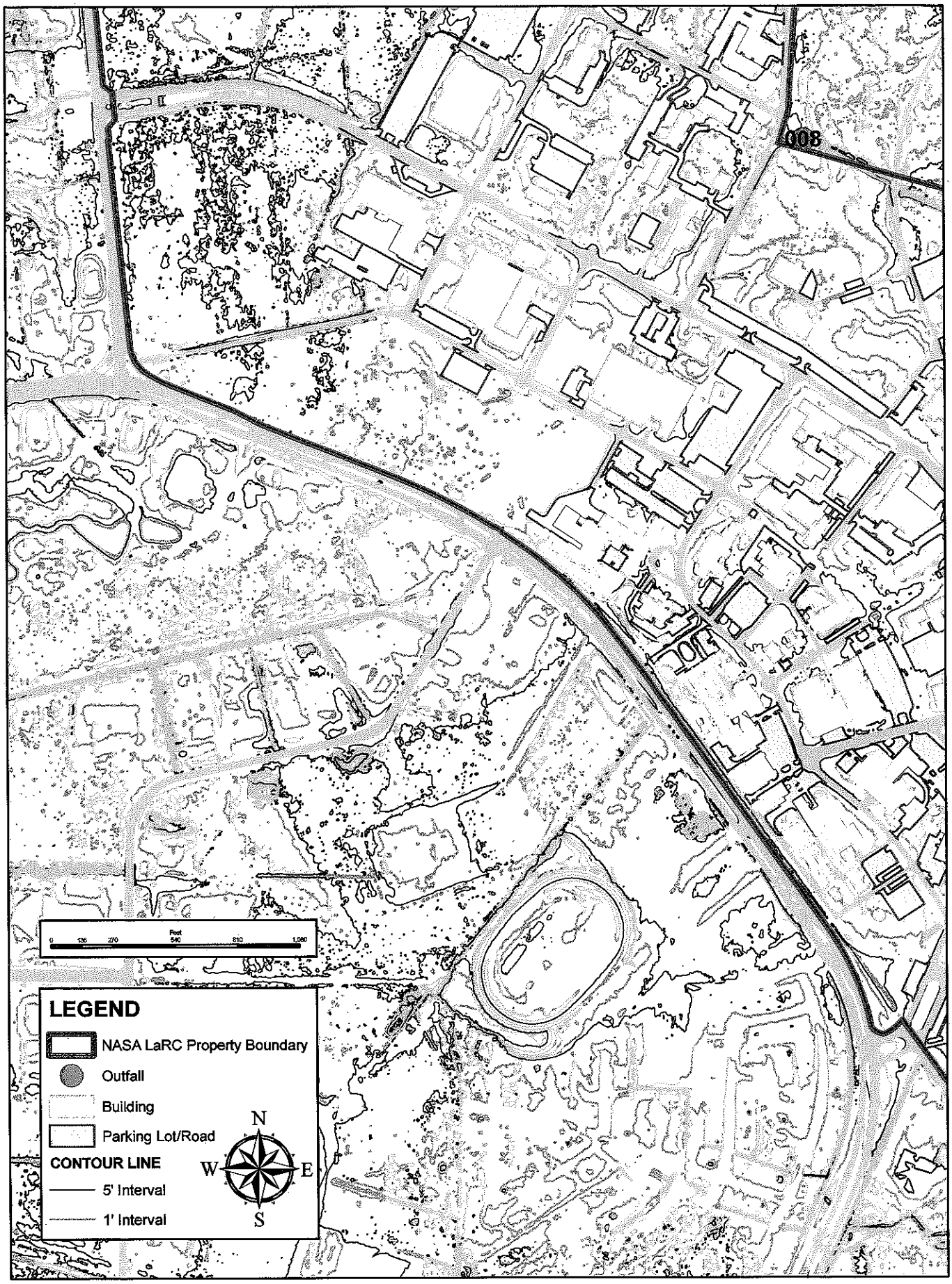
EPA Form 3510-1 Item XI. Map **QUADRANT 2**



NASA Langley Research Center, Hampton VA

EPA For 3510-1 Item XI. Map

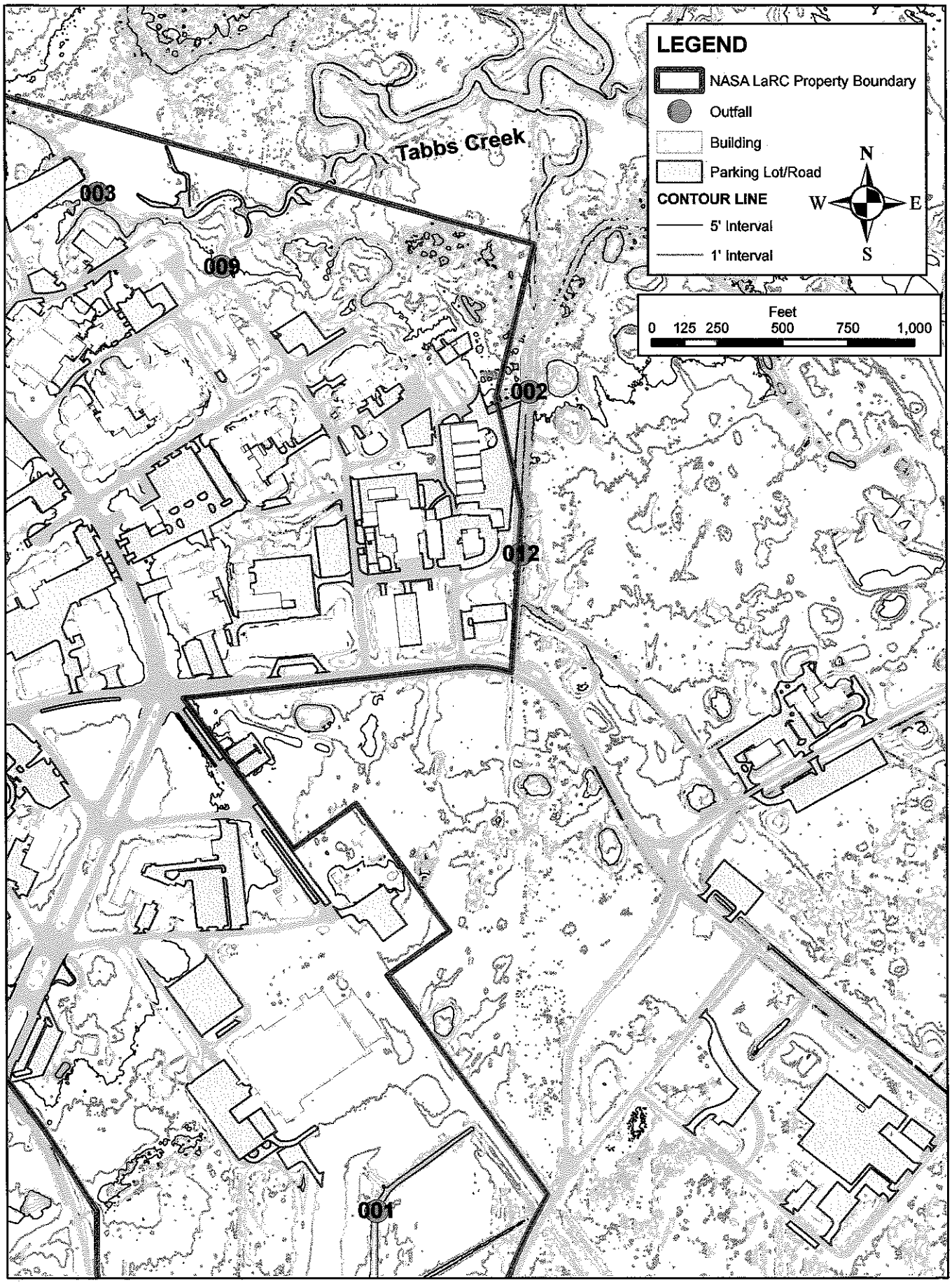
QUADRANT 3



NASA Langley Research Center, Hampton VA

EPA Form 3510-1 Item XI. Map

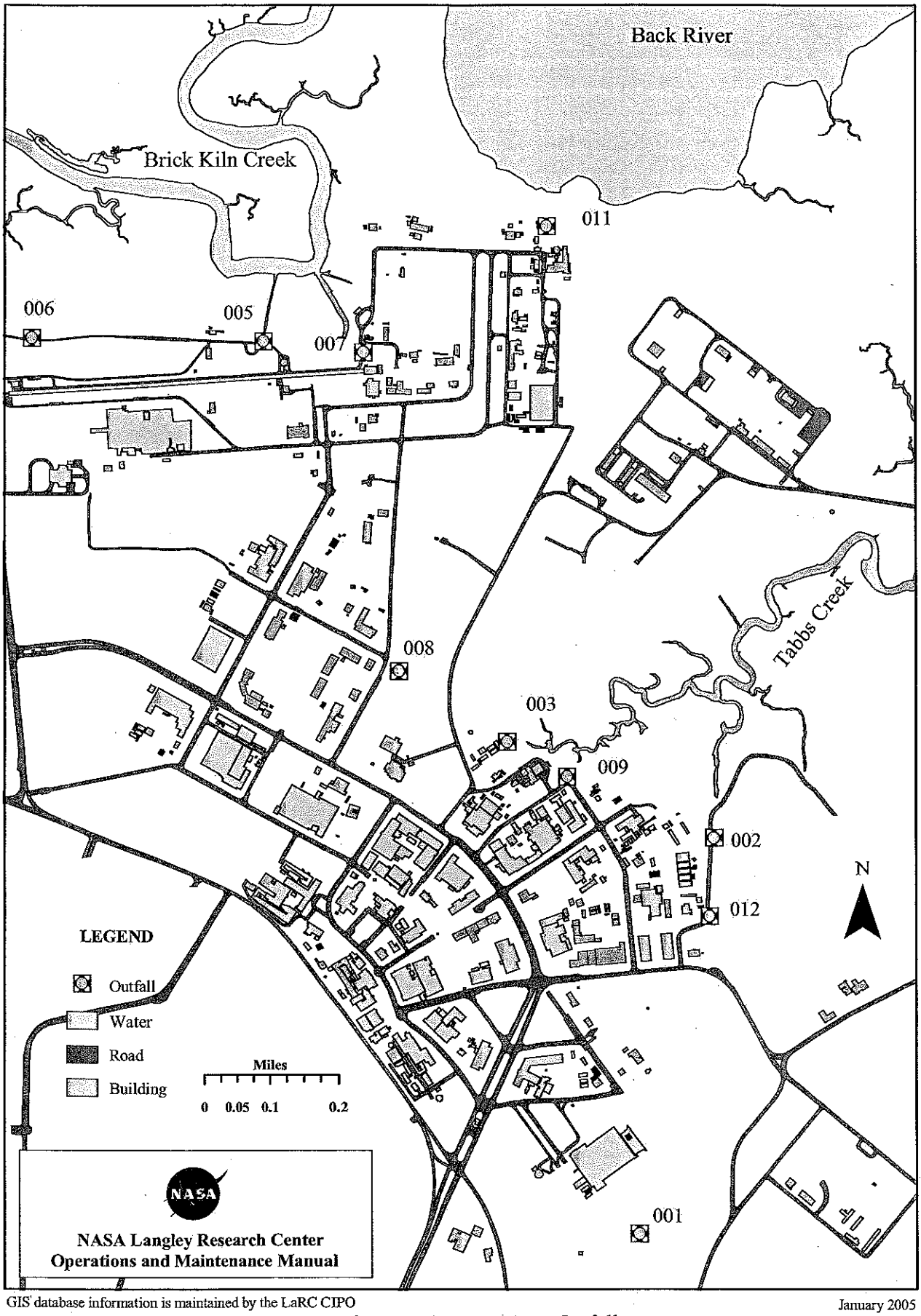
QUADRANT 4



NASA Langley Research Center, Hampton VA

ATTACHMENT 3

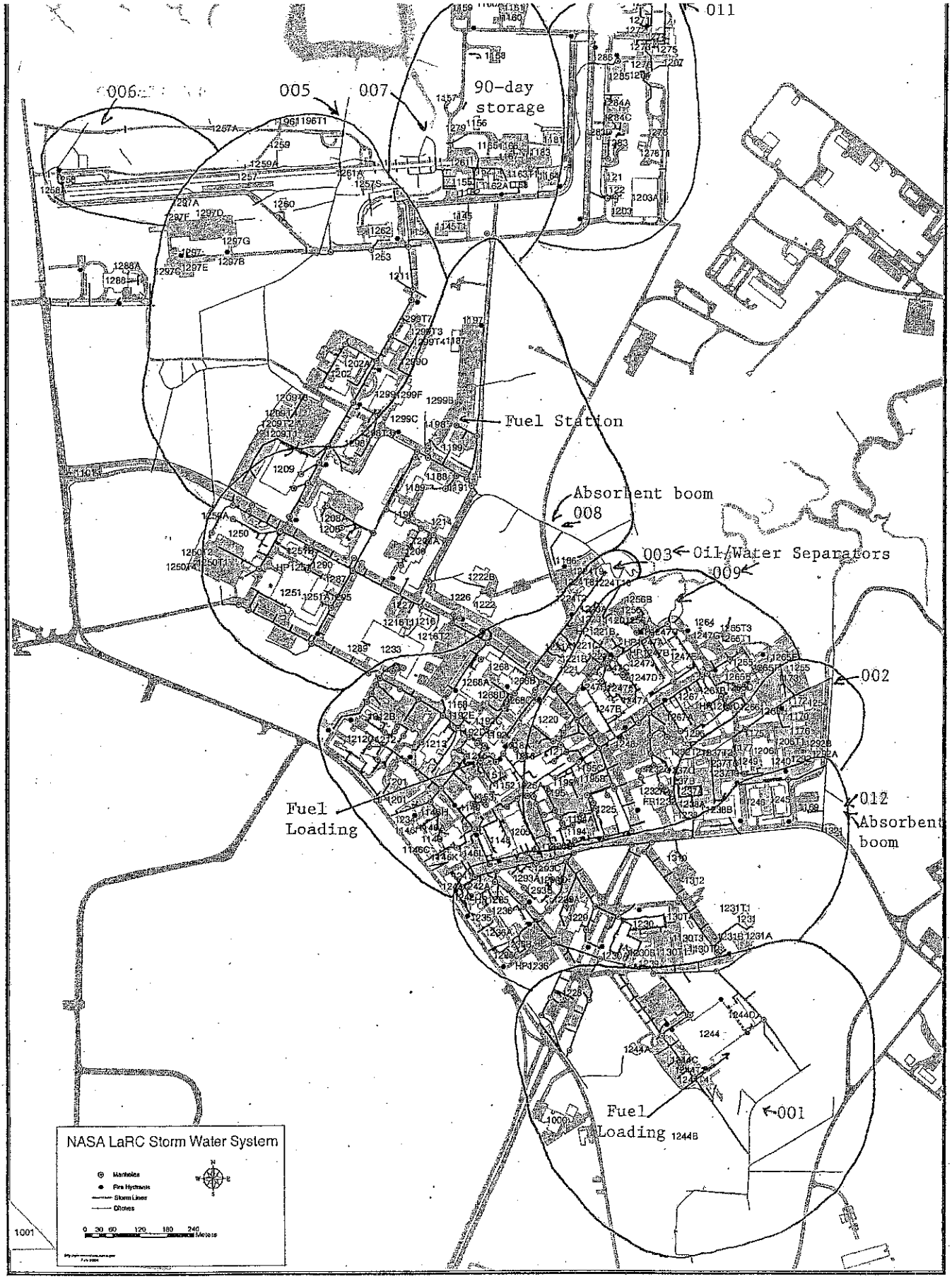
SCHEMATIC/PLANS & SPECS/SITE MAP/ WATER BALANCE



GIS database information is maintained by the LaRC CIPO

January 2005

Figure B-1 West Area Outfalls



NASA LaRC West Area

Form 2F, III. Site Drainage Map

Herbicides are applied sparingly along road and walkways, as needed.

ATTACHMENT 4

TABLE I - DISCHARGE/OUTFALL DESCRIPTION

NASA Langley Research Center
VPDES Permit No. VA0024741

TABLE I

NUMBER AND DESCRIPTION OF OUTFALLS

OUTFALL NO.	DISCHARGE LOCATION	DISCHARGE SOURCE (1)	TREATMENT (2)	FLOW (3)
001	37 05 02 76 22 35	*Cooling tower *In-frequent aircraft washdown on runway & *Storm water runoff	o/w separator absorbent pads	0.98 MGD
002	37 05 33 76 22 26	*Grassy areas/ Open space & *Storm water runoff	none	0.12 MGD
003	37 05 40 76 22 46	*Cooling tower *Bldg 1215 water softener backwash brine *Condensate flow & *Storm water runoff	o/w separator absorbent pads	0.59 MGD
005	37 06 12 76 23 09	*Cooling tower *Bldg 1288 water softener backwash brine *Storm water runoff		0.45 MGD
006	37 06 13 76 23 32	*Grassy areas/ Open space & *Storm water runoff	none	0.78 MGD
007	37 06 11 76 22 59	*Grassy areas/ Open space & *Storm water runoff	none	0.52 MGD
008	37 05 46 76 22 57	*Cooling tower *Bldg 1199 vehicle wash (est 2/month) & *Storm water runoff		0.45 MGD
009	37 05 38 76 22 41	*Cooling tower *Bldg 1232A Water jet rinse from fire station activities *Bldg 1247A compressor blowdown *Bldg 1265 basement pump O/W separator & *Storm water runoff	o/w separator absorbent pads/boom	0.50 MGD
011	37 06 21 76 22 41	*Grassy areas/ Open space & *Storm water runoff		0.001 MGD
012	37 05 27 76 22 27	*Cooling tower & *Storm water runoff		0.56 MGD
004 010		DELETED AS ALL ACTIVITY HAS CEASED AND BLDG DEMOLISHED		
Total Flows				5.0 MGD

(1) List operations contributing to flow
(2) Give brief description, unit by unit
(3) Give maximum 30-day average flow for industry and design flow for municipal

ATTACHMENT 5

TABLE II - EFFLUENT MONITORING/LIMITATIONS

TABLE II - INDUSTRIAL EFFLUENT LIMITATIONS/MONITORING

OUTFALL # 001,012
Outfall Description: Cooling tower blowdown, infrequent aircraft wash down activity and storm water runoff
SIC CODE: 9661

(x) Final Limits ( ) Interim Limits Effective Dates - From: issuance To: expiration

PARAMETER & UNITS	BASIS FOR LIMITS	MULTIPLIER OR PRODUCTION	EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS [a]	
			MONTHLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Flow (MGD)	3		NA	NA	NL	1/6Months	EST
pH (S.U.)	3		NA	6.0	9.0	1/6Months	Grab
Temperature (^{0}C)	3		NA	NA	32	1/6Months	I.S.

NA = NOT APPLICABLE; NL = NO LIMIT, MONITORING REQUIREMENT ONLY

I.S. = Immersion Stabilization

1/6 Months = In accordance with the following schedule: 1st half (January 1 - June 30); 2nd half (July 1 - December 31).

Upon issuance of the permit, Discharge Monitoring Reports (DMRs) shall be submitted to the regional office at the frequency required by the permit regardless of whether an actual discharge occurs. In the event that there is no discharge for the monitoring period, then "no discharge" shall be reported on the DMR.

[a] Sample collection shall be conducted during dry-weather flows.

The bases for the limitations codes are:

1. Technology (e.g., Federal Effluent Guidelines)
2. Water Quality Standards (9 VAC 25-260 et. seq.)
3. Best Professional Judgment

TABLE II - INDUSTRIAL EFFLUENT LIMITATIONS/MONITORING

OUTFALL # 003
Outfall Description: Cooling tower blowdown, storm water runoff, and backwash brine solution from water softener process

SIC CODE: 9661

(X) Final Limits ( ) Interim Limits Effective Dates - From: issuance To: expiration

PARAMETER & UNITS	BASIS FOR LIMITS	MULTIPLIER OR PRODUCTION	EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS [a]	
			MONTHLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Flow (MGD)	3		NL	NA	NL	1/6Months	EST
pH (S.U.)	3		NA	6.0	9.0	1/6Months	Grab
Total Suspended Solids (mg/l) [b]	3		NA	NA	NL	1/6Months	Grab
Total Dissolved Solids (mg/l)	3		NA	NA	NL	1/6Months	Grab
Total Petroleum Hydrocarbons (mg/l)	3		NA	NA	15	1/6Months	Grab
Dissolved Copper (ug/l) [b]	3		NA	NA	NL	1/6Months	Grab
Dissolved Zinc (ug/l) [b]	3		NA	NA	NL	1/6Months	Grab
Temperature (^{0}C)	3		NA	NA	32	1/6Months	I.S.

NA = NOT APPLICABLE; NL = NO LIMIT, MONITORING REQUIREMENT ONLY
I.S. = Immersion Stabilization

1/6 Months = In accordance with the following schedule: 1st half (January 1 - June 30); 2nd half (July 1 - December 31).

Upon issuance of the permit, Discharge Monitoring Reports (DMRs) shall be submitted to the regional office at the frequency required by the permit regardless of whether an actual discharge occurs. In the event that there is no discharge for the monitoring period, then "no discharge" shall be reported on the DMR.

[a] Sample collection shall be conducted during dry-weather flows.
[b] See Parts I.B.4. and I.B.5. for quantification levels and reporting requirements, respectively.

The bases for the limitations codes are:
1. Technology (e.g., Federal Effluent Guidelines)
2. Water Quality Standards (9 VAC 25-260 et. seq.)
3. Best Professional Judgment

TABLE II - INDUSTRIAL EFFLUENT LIMITATIONS/MONITORING

OUTFALL # 005
Outfall Description: Cooling tower blowdown and storm water runoff
SIC CODE: 9661

(x) Final Limits ( ) Interim Limits Effective Dates - From: issuance To: expiration

PARAMETER & UNITS	BASIS FOR LIMITS	MULTIPLIER OR PRODUCTION	EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS [a]	
			MONTHLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Flow (MGD)	3		NA	NA	NL	1/6Months	EST
pH (S.U.)	3		NA	6.0	9.0	1/6Months	Grab
Temperature (oC)	3		NA	NA	32	1/6Months	I.S.

NA = NOT APPLICABLE; NL = NO LIMIT, MONITORING REQUIREMENT ONLY

I.S. = Immersion Stabilization

1/6 Months = In accordance with the following schedule: 1st half (January 1 - June 30); 2nd half (July 1 - December 31).

Upon issuance of the permit, Discharge Monitoring Reports (DMRs) shall be submitted to the regional office at the frequency required by the permit regardless of whether an actual discharge occurs. In the event that there is no discharge for the monitoring period, then "no discharge" shall be reported on the DMR.

[a] Sample collection shall be conducted during dry-weather flows.

The bases for the limitations codes are:
1. Technology (e.g., Federal Effluent Guidelines)
2. Water Quality Standards (9 VAC 25-260 et. seq.)
3. Best Professional Judgment

TABLE II - INDUSTRIAL EFFLUENT LIMITATIONS/MONITORING

OUTFALL # 008
Outfall Description: Cooling tower blowdown, storm water runoff and vehicle wash runoff from Bldg-B1199
SIC CODE: 9661

(x) Final Limits ( ) Interim Limits Effective Dates - From: issuance To: expiration

PARAMETER & UNITS	BASIS FOR LIMITS	MULTIPLIER OR PRODUCTION	EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS [a]	
			MONTHLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Flow (MGD)	3		NA	NA	NL	1/6Months	EST
pH (S.U.)	3		NA	6.0	9.0	1/6Months	Grab
Total Suspended Solids (mg/l)	3		NA	NA	60	1/6Months	Grab
Total Petroleum Hydrocarbon (mg/l)	3		NA	NA	15	1/6Months	Grab
Temperature(oC)	3		NA	NA	32	1/6Months	I.S.
Dissolved Copper (ug/l) [b]	3		NA	NA	NL	1/6Months	Grab
Dissolved Zinc (ug/l) [b]	3		NA	NA	NL	1/6Months	Grab

NA = NOT APPLICABLE; NL = NO LIMIT, MONITORING REQUIREMENT ONLY

I.S. = Immersion Stabilization

1/6 Months = In accordance with the following schedule: 1st half (January 1 - June 30); 2nd half (July 1 - December 31).

Upon issuance of the permit, Discharge Monitoring Reports (DMRs) shall be submitted to the regional office at the frequency required by the permit regardless of whether an actual discharge occurs. In the event that there is no discharge for the monitoring period, then "no discharge" shall be reported on the DMR.

[a] Sample collection shall be conducted during dry-weather flows.
[b] See Parts I.B.4.and I.B.5. for quantification levels and reporting requirements, respectively.

The bases for the limitations codes are:
1. Technology (e.g., Federal Effluent Guidelines)
2. Water Quality Standards (9 VAC 25-260 et. seq.)
3. Best Professional Judgment

TABLE II - INDUSTRIAL EFFLUENT LIMITATIONS/MONITORING

OUTFALL # 009
Outfall Description: Cooling tower blowdown, storm water runoff and fire truck wash water and vehicle wash runoff from Bldg. B-1248, jet rinse water at Bldg. B-1232 and compressor blowdown from Bldg. B-1247E.

SIC CODE: 9661

(x) Final Limits ( ) Interim Limits Effective Dates - From: issuance To: expiration

PARAMETER & UNITS	BASIS FOR LIMITS	MULTIPLIER OR PRODUCTION	EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS [a]	
			MONTHLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Flow (MGD)	3		NA	NA	NL	1/6Months	EST
pH (S.U.)	3		NA	6.0	9.0	1/6Months	Grab
Total Petroleum Hydrocarbon (mg/l)	3		NA	NA	15	1/6Months	Grab
Total Suspended Solids (mg/l)	3		NA	NA	60	1/6Months	Grab
Temperature(oC)	3		NA	NA	32	1/6Months	I.S.
Dissolved Copper (ug/l) [b]	3		NA	NA	NL	1/6Months	Grab
Dissolved Zinc (ug/l) [b]	3		NA	NA	NL	1/6Months	Grab

NA = NOT APPLICABLE; NL = NO LIMIT, MONITORING REQUIREMENT ONLY

I.S. = Immersion Stabilization
1/6 Months = In accordance with the following schedule: 1st half (January 1 - June 30); 2nd half (July 1 - December 31).

Upon issuance of the permit, Discharge Monitoring Reports (DMRs) shall be submitted to the regional office at the frequency required by the permit regardless of whether an actual discharge occurs. In the event that there is no discharge for the monitoring period, then "no discharge" shall be reported on the DMR.

[a] Sample collection shall be conducted during dry-weather flows.
[b] See Parts I.B.4.and I.B.5. for quantification levels and reporting requirements, respectively.

The bases for the limitations codes are:
1. Technology (e.g., Federal Effluent Guidelines)
2. Water Quality Standards (9 VAC 25-260 et. seq.)
3. Best Professional Judgment

TABLE II - INDUSTRIAL EFFLUENT LIMITATIONS/MONITORING

OUTFALL # 002, 006, 007, 011
Outfall Description: Storm water runoff from grassy/wooded areas
SIC CODE: 9661

THESE OUTFALLS SHALL CONTAIN STORM WATER RUNOFF NOT ASSOCIATED WITH A REGULATED INDUSTRIAL ACTIVITY. NO MONITORING OR REPORTING IS REQUIRED. THERE SHALL BE NO DISCHARGE OF PROCESS WATER FROM THESE OUTFALLS.

ATTACHMENT 6

EFFLUENT LIMITATIONS/MONITORING RATIONALE/SUITABLE DATA/ ANTIDEGRADATION/ANTIBACKSLIDING

NASA Langley Research Center
VPDES Permit No VA0024741
Effluent Limitation & Monitoring Rationale

NASA Langley Research Center has 10 permitted outfalls consisting of cooling tower blowdown, AC Condensate, vehicle wash effluent, water softener system backwash brine solution, and non-regulated stormwater runoff. (The landing loads test facility has been de-activated and is listed for demolition in the future; no activities generating a point source discharge are conducted at this site). The previous permit addressed two additional outfalls (004, 010) that have been deleted as they no longer exist (buildings have been demolished, along with any roof drain and impervious surface flows); the structures were actually located on Langley AFB property and leased by NASA (see enclosed letter dated June 18,2009 from LAFB, and Email dated July 31, 2009 from NASA). Treatment for the remaining permitted outfalls consists of oil/water separators at outfalls 003 and 009. The remaining outfalls incorporate absorbent booms as needed. Currently, NASA is covered by an MS4 permit for all storm water requirements, which includes provisions for illicit discharge detection. Storm water special conditions are not a part of this permit.

All available data generated from this permit term as well as application data has been reviewed. The data collected for dissolved copper and dissolved zinc show slightly elevated levels on an inconsistent basis during the permit term. The source/make-up water used by NASA for the cooling towers is supplied by the City of Newport News Reservoir. This city water is known to show high copper and zinc levels based on their use of copper sulfate and zinc orthophosphate as public water supply treatment method. Continued monitoring for these metals is recommended.

The primary SIC Code for this facility is 9661, research and development for space exploration. The SIC Codes identifying operations at NASA do not classify it in a regulated industrial category. Sources of storm water runoff have been reviewed and again, BPJ supports the sampling of dry-weather flows from the permitted outfalls. Sampling during a storm event would only serve to dilute the process flows being monitored. Therefore, current sampling protocol shall continue with this permit reissuance; that being sampling during dry-weather flows. This practice will provide data from which an accurate picture can be developed regarding impact of contaminates to state waters.

Outfalls 001 and 012:

Outfall 001 is located adjacent to Building 1244 (the Hangar Facility and aircraft staging pad and runway). Two oil/water separators are located at the Hangars fuel truck staging area and trim pad. One located at the fuel truck parking area. Separators are used as emergency separators in the event of a plane fueling accident on the flight deck.

These outfall flows are comprised of cooling tower blowdown, quarterly aircraft wash down activity and non-regulated storm water runoff from part of the golf course and surrounding area. Sampling shall be conducted during dry-weather flows (cooling tower blowdown) where there is no active contribution of storm water. There is no treatment applied, other than absorbent booms, if necessary.

FLOW No limit, however monitoring and reporting is required 1/6Months by an estimate. BPJ

pH 6.0 s.u. min - 9.0 s.u. max, monitored 1/6Months by a grab sample. In accord with VPDES Permit Manual Section IN-5 Dated February 16, 2007. BPJ for the protection of water quality.

TEMP: 32 degree C max, monitored 1/6Months by immersion stabilization. BPJ based on Guidance Memo 98-2002 for cooling tower blowdown discharges.

Outfall 003:

Treatment at this outfall is an oil/water separator. The inlet to the separator is a 42" concrete pipe. The outlet from the separator is similar to an inverted weir. Absorbent pads are placed inside the separator and received regular maintenance.

The flows through this outfall are comprised of cooling tower blowdown, backwash brine solution from a water softener process (building 1215) and non-regulated storm water from areas which drain a significant portion of the facility southeast of the water tower. Monitoring is restricted to dry-weather flows only.

FLOW No limit, however monitoring and reporting is required 1/6Months by an estimate. BPJ

pH 6.0 s.u. min - 9.0 s.u. max, monitored 1/6Months by a grab sample. In accord with VPDES Permit Manual Section IN-5 Dated February 16, 2007. BPJ for the protection of water quality.

TEMP: 32 degree C max, monitored 1/6Months by immersion stabilization. BPJ based on Guidance Memo 98-2002 for cooling tower blowdown discharges

TDS: No limit, however monitoring and reporting is required 1/6month by a grab sample. BPJ determination for the protection of beneficial uses of the receiving stream and permit manual guidance

TSS: No limit, however monitoring and reporting is required 1/6Months by a grab sample. BPJ based on Guidance Memo 98-2002 for cooling tower blowdown discharges and water treatment plant guidelines.

TPH: 15 mg/l max, monitored 1/6Months by a grab sample. BPJ in accord with VPDES Permit Manual Section IN-5 Dated February 16, 2007. The company consistently reported very low concentrations of TPH in their effluent, O/W separator in place for treatment.

Dis Cu & Dis Zn: No limit, however monitoring and reporting is required 1/6Months by a grab sample. BPJ based on monitoring data evaluation and review of the "source/make-up" water being supplied by the City of Newport News Reservoir. (Newport News uses copper sulfate and zinc orthophosphate in their drinking water supply).

Outfalls 004 and 010:

These outfalls have been deleted from the permit as they no longer exist. The physical structures were located on the property owned by Langley AFB, and were

leased by NASA for many years. The lease has been terminated via letter dated June 18, 2009 from the Water Quality Asset Manager LAFB.

Outfall 005:

The flows through this outfall consist of cooling tower blowdown and non regulated storm water runoff.

FLOW No limit, however monitoring and reporting is required 1/6Months by an estimate. BPJ

pH 6.0 s.u. min - 9.0 s.u. max, monitored 1/6Months by a grab sample. In accord with VPDES Permit Manual Section IN-5 Dated February 16, 2007. BPJ for the protection of water quality.

TEMP: 32 degree C max, monitored 1/6Months by immersion stabilization. BPJ based on Guidance Memo 98-2002 for cooling tower blowdown discharges.

Outfalls 002, 006, 007, 011:

The flows through these discharge points consist solely of non-regulated storm water runoff where **no monitoring or reporting is required.**

Outfall 008:

The flows through this outfall consist of cooling tower blowdown and car wash effluent from fleet vehicle wash activities at Building 1199. Non regulated storm water runoff from a large portion of the northeast section of the NASA west area also contributes to the discharge. Monitoring shall be restricted to dry weather flows only.

FLOW No limit, however monitoring and reporting is required 1/6Months by an estimate. BPJ

pH 6.0 s.u. min - 9.0 s.u. max, monitored 1/6Months by a grab sample. In accord with VPDES Permit Manual Section IN-5 Dated February 16, 2007. BPJ for the protection of water quality.

TEMP: 32 degree C max, monitored 1/6Months by immersion stabilization. BPJ based on Guidance Memo 98-2002 for cooling tower blowdown discharges

TSS: 60 mg/l max monitored 1/6Months by a grab sample. BPJ based on Guidance Memo 97-2004 for a car wash facility.

TPH: 15 mg/l max, monitored 1/6Months by a grab sample. BPJ in accord with VPDES Permit Manual Section IN-5 Dated February 16, 2007. The company consistently reported very low concentrations of TPH in their effluent, O/W separator in place for treatment.

Dis Cu & Dis Zn: No limit, however monitoring and reporting is required 1/6Months by a grab sample. BPJ based on monitoring data evaluation and

review of the "source/make-up" water being supplied by the City of Newport News Reservoir. (Newport News uses copper sulfate and zinc orthophosphate in their drinking water supply).

Outfall 009:

Treatment at this outfall is an oil/water separator. A 48" concrete pipe is the inlet to the separator and an inverted weir is the outlet. Absorbent pads are placed inside the separator unit.

The flow through this outfall consist of cooling tower blowdown and water jet rinse from the fire station activities. Non-regulated storm water also contributes to the outfall discharge. Monitoring shall be restricted to dry-weather flows.

FLOW No limit, however monitoring and reporting is required 1/6Months by an estimate. BPJ

pH 6.0 s.u. min - 9.0 s.u. max, monitored 1/6Months by a grab sample. In accord with VPDES Permit Manual Section IN-5 Dated February 16, 2007. BPJ for the protection of water quality.

TSS: 60 mg/l max monitored 1/6Months by a grab sample. BPJ based on Guidance Memo 97-2004 for a car wash facility.

TEMP: 32 degree C max, monitored 1/6Months by immersion stabilization. BPJ based on Guidance Memo 98-2002 for cooling tower blowdown discharges

TPH: 15 mg/l max, monitored 1/6Months by a grab sample. BPJ in accord with VPDES Permit Manual Section IN-5 Dated February 16, 2007. The company consistently reported very low concentrations of TPH in their effluent, O/W separator in place for treatment.

Dis Cu &

Dis Zn: No limit, however monitoring and reporting is required 1/6Months by a grab sample. BPJ based on monitoring data evaluation and review of the "source/make-up" water being supplied by the City of Newport News Reservoir. (Newport News uses copper sulfate and zinc orthophosphate in their drinking water supply).

E-3

DEPARTMENT OF THE AIR FORCE

HEADQUARTERS 1ST FIGHTER WING
LANGLEY AIR FORCE BASE VA

JUN 18 2009

1 CES/CEANC
37 Sweeney Boulevard
Langley AFB VA 23665-2107

Ms. Deborah Thompson
Virginia Department of Environmental Compliance
5636 Southern Boulevard
Virginia Beach VA 23462

CERTIFIED MAIL
RETURN RECEIPT
7007 1490 0000 4550 3816

Dear Ms. Thompson

The purpose of this letter is to assist the NASA Langley Research Center (LaRC) Permit #VA0024741 in removing Outfall #4 and #10 from the NASA LaRC stormwater discharge permit to eliminate the requirement for sampling and analysis. Outfalls #4/10 are located on Langley Air Force Base (AFB), however, are monitored by NASA LaRC due to their lease, building occupancy and industrial processes located on Langley AFB at building 640, 641 and 643. NASA LaRC is not renewing their lease and no industrial processes will occur in this drainage area. NASA LaRC Outfall #4 corresponds to Langley AFB's Outfall #7 and NASA LaRC Outfall #10 corresponds to Langley AFB's Outfall #43. Below are the Outfall descriptions and current discharge status. Outfalls #4/#7 and Outfalls #10/#43 no longer have any industrial processes in the drainage area. Additional information and documentation can be provided during Langley AFB's meeting with you on 2 July 2009.

OUTFALL	LATITUDE	LONGITUDE	DISCHARGE TO	DESCRIPTION	INDUSTRIAL DISCHARGE (Y/N)
007	37° 05' 01" N	76° 20' 28.5" W	Back River - Southwest Branch	A 42-inch RCP that discharges directly into the Back River at a point north of National Aeronautics and Space Administration (NASA) Building 643. This pipe is subject to tidal influence.	No Bldg 640 and 641 are scheduled for demolition. All industrial activities have been terminated.
043	37° 04' 57" N	76° 20' 25" W	Back River - Southwest Branch	A 24-inch RCP located along the river front of the NASA Building 643 and covered with concrete and rock rip-rap. This outfall discharges directly into the Back River and is subject to tidal influence.	No

If you have any questions concerning this letter, please contact Ms. Jeree Grimes of the Asset Management Flight at (757) 764-1130.

Sincerely

Jeree L. Grimes

JEREE L. GRIMES, GS-11
Water Quality Asset Manager

Global Power For America

6-6

Thompson,Debra

From: Mcginnis, Philip Lee (LARC-D402C) [philip.l.mcginnis@nasa.gov]
Sent: Friday, July 31, 2009 4:00 PM
To: Thompson,Debra
Subject: RE: VPDES Permit VA0024741 NASA Langley Research Center- Outfalls 004, 010

Yes, this information is correct. NASA will no longer have presence in this area and NASA Langley Research Center requests that outfalls 004 and 010 be removed from the reissuance application.

If you have any questions please email me at Philip.l.mcginnis@nasa.gov or call me at 757 864-2073.

Thank you,

Philip McGinnis

Environmental Management Office

NASA Langley Research Center

From: Thompson,Debra [mailto:Debra.Thompson@deq.virginia.gov]
Sent: Friday, July 31, 2009 1:23 PM
To: Mcginnis, Philip Lee (LARC-D402C)
Subject: VPDES Permit VA0024741 NASA Langley Research Center- Outfalls 004, 010

Good Afternoon,

On June 22, 2009 I received a letter from Ms. Jerree Grimes, Langley Air Force Base Water Quality Asset Manager regarding NASA permitted outfalls 004 and 010. The information contained in her letter verifies that NASA will no longer have presence on the Langley Air Force Base property. Therefore, with confirmation from you, I will continue to process the reissuance application with documentation indicating no industrial activity in the vicinity of outfalls 004 and 010 and the pipes are "off line". The new permit for NASA will not include outfalls 004 and 010.

Please confirm this information and request outfall 004 and 010 be deleted from the reissuance application. If you have any questions, please contact me,

Debra L. Thompson

Environmental Engineer Senior

VA Department of Environmental Quality

5636 Southern Boulevard

Virginia Beach, VA 23462

Due Date	Received Date	otfl	pram	nodisch	Parameter Description	CONCMAX	Comments	eporting Frequenc	MON START	MON END
10-Apr-2004	12-Apr-2004	003	004	N	TSS	3		Semi Annual	01-Jan-2004	31-Mar-2004
10-Oct-2004	12-Oct-2004	003	004	N	TSS	12		Semi Annual	01-Jul-2004	31-Dec-2004
10-Mar-2005	23-Feb-2005	003	004	N	TSS	1	phone number updated on 3/25/05	Semi Annual	01-Jan-2005	30-Jun-2005
10-Dec-2005	20-Dec-2005	003	004	N	TSS	23		Semi Annual	01-Jul-2005	31-Dec-2005
10-Jul-2006	02-Jun-2006	003	004	N	TSS	2		Semi Annual	01-Jan-2006	30-Jun-2006
10-Jan-2007	28-Dec-2006	003	004	N	TSS	3.0		Semi Annual	01-Jul-2006	31-Dec-2006
10-Jul-2007	01-May-2007	003	004	N	TSS	3		Semi Annual	01-Jan-2007	30-Jun-2007
10-Jan-2008	06-Dec-2007	003	004	N	TSS	4	[FLOW/LoadAvg]:For parameter 257 the results for both TPH-DRO and TPH-GRO were below the lab QL (<0.50 mg/L) for test method No. 8015B. The VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jul-2007	31-Dec-2007
10-Jul-2008	16-Jun-2008	003	004	N	TSS	2.1	[PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE/ConcMax]:For parameter code 257 analysis results for both TPH-DRO and TPH-GRO were below the lab QL of 0.50 mg/L for test method. VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jan-2008	30-Jun-2008
10-Jan-2009	02-Dec-2008	003	004	N	TSS	3.2		Semi Annual	01-Jul-2008	31-Dec-2008
10-Jul-2009	11-Jun-2009	003	004	N	TSS	15		Semi Annual	01-Jan-2009	30-Jun-2009
10-Apr-2004	12-Apr-2004	003	080	N	TEMPERATURE, WATER (DEG. C)	12		Semi Annual	01-Jan-2004	31-Mar-2004
10-Oct-2004	12-Oct-2004	003	080	N	TEMPERATURE, WATER (DEG. C)	27		Semi Annual	01-Jul-2004	31-Dec-2004
10-Mar-2005	23-Feb-2005	003	080	N	TEMPERATURE, WATER (DEG. C)	17	phone number updated on 3/25/05	Semi Annual	01-Jan-2005	30-Jun-2005
10-Dec-2005	20-Dec-2005	003	080	N	TEMPERATURE, WATER (DEG. C)	33		Semi Annual	01-Jul-2005	31-Dec-2005
10-Jul-2006	02-Jun-2006	003	080	N	TEMPERATURE, WATER (DEG. C)	11		Semi Annual	01-Jan-2006	30-Jun-2006
10-Jan-2007	28-Dec-2006	003	080	N	TEMPERATURE, WATER (DEG. C)	20		Semi Annual	01-Jul-2006	31-Dec-2006
10-Jul-2007	01-May-2007	003	080	N	TEMPERATURE, WATER (DEG. C)	16		Semi Annual	01-Jan-2007	30-Jun-2007

Due Date	Received Date	otfi	pram	nodisch	Parameter Description	CONCMAX	Comments	eporting Frequenc	MON START	MON END
10-Jan-2008	06-Dec-2007	003	080	N	TEMPERATURE, WATER (DEG. C)	29	[FLOW/LoadAvg]:For parameter 257 the results for both TPH-DRO and TPH-GRO were below the lab QL (<0.50 mg/L) for test method No. 8015B. The VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jul-2007	31-Dec-2007
10-Jul-2008	16-Jun-2008	003	080	N	TEMPERATURE, WATER (DEG. C)	13	[PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE/ConcMax]:For parameter code 257 analysis results for both TPH-DRO and TPH-GRO were below the lab QL of 0.50 mg/L for test method. VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jan-2008	30-Jun-2008
10-Jan-2009	02-Dec-2008	003	080	N	TEMPERATURE, WATER (DEG. C)	27		Semi Annual	01-Jul-2008	31-Dec-2008
10-Jul-2009	11-Jun-2009	003	080	N	TEMPERATURE, WATER (DEG. C)	15		Semi Annual	01-Jan-2009	30-Jun-2009
10-Apr-2004	12-Apr-2004	003	089	N	DIS. SOLIDS, TOTAL	392		Semi Annual	01-Jan-2004	31-Mar-2004
10-Oct-2004	12-Oct-2004	003	089	N	DIS. SOLIDS, TOTAL	273		Semi Annual	01-Jul-2004	31-Dec-2004
10-Mar-2005	23-Feb-2005	003	089	N	DIS. SOLIDS, TOTAL	474	phone number updated on 3/25/05	Semi Annual	01-Jan-2005	30-Jun-2005
10-Dec-2005	20-Dec-2005	003	089	N	DIS. SOLIDS, TOTAL	4660		Semi Annual	01-Jul-2005	31-Dec-2005
10-Jul-2006	02-Jun-2006	003	089	N	DIS. SOLIDS, TOTAL	3381		Semi Annual	01-Jan-2006	30-Jun-2006
10-Jan-2007	28-Dec-2006	003	089	N	DIS. SOLIDS, TOTAL	292		Semi Annual	01-Jul-2006	31-Dec-2006
10-Jul-2007	01-May-2007	003	089	N	DIS. SOLIDS, TOTAL	692		Semi Annual	01-Jan-2007	30-Jun-2007
10-Jan-2008	06-Dec-2007	003	089	N	DIS. SOLIDS, TOTAL	1100	[FLOW/LoadAvg]:For parameter 257 the results for both TPH-DRO and TPH-GRO were below the lab QL (<0.50 mg/L) for test method No. 8015B. The VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jul-2007	31-Dec-2007

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Due Date	Received Date	otfl	pram	nodisch	Parameter Description	CONCMAX	Comments	eporting Frequenc	MON START	MON END
10-Jul-2008	16-Jun-2008	003	089	N	DIS. SOLIDS, TOTAL	380	[PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE/ConcMax]:For parameter code 257 analysis results for both TPH-DRO and TPH-GRO were below the lab QL of 0.50 mg/L for test method. VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jan-2008	30-Jun-2008
10-Jan-2009	02-Dec-2008	003	089	N	DIS. SOLIDS, TOTAL	1100		Semi Annual	01-Jul-2008	31-Dec-2008
10-Jul-2009	11-Jun-2009	003	089	N	DIS. SOLIDS, TOTAL	250		Semi Annual	01-Jan-2009	30-Jun-2009
10-Apr-2004	12-Apr-2004	003	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.5		Semi Annual	01-Jan-2004	31-Mar-2004
10-Oct-2004	12-Oct-2004	003	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.5		Semi Annual	01-Jul-2004	31-Dec-2004
10-Mar-2005	23-Feb-2005	003	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.5	phone number updated on 3/25/05	Semi Annual	01-Jan-2005	30-Jun-2005
10-Dec-2005	20-Dec-2005	003	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.5		Semi Annual	01-Jul-2005	31-Dec-2005
10-Jul-2006	02-Jun-2006	003	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.50		Semi Annual	01-Jan-2006	30-Jun-2006
10-Jan-2007	28-Dec-2006	003	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.50		Semi Annual	01-Jul-2006	31-Dec-2006
10-Jul-2007	01-May-2007	003	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.5		Semi Annual	01-Jan-2007	30-Jun-2007

Due Date	Received Date	otfl	pram	nodisch	Parameter Description	CONCMAX	Comments	eporting Frequenc	MON START	MON END
10-Jan-2008	06-Dec-2007	003	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.50	[FLOW/LoadAvg]:For parameter 257 the results for both TPH-DRO and TPH-GRO were below the lab QL (<0.50 mg/L) for test method No. 8015B. The VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jul-2007	31-Dec-2007
10-Jul-2008	16-Jun-2008	003	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.50	[PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE/ConcMax]:For parameter code 257 analysis results for both TPH-DRO and TPH-GRO were below the lab QL of 0.50 mg/L for test method. VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jan-2008	30-Jun-2008
10-Jan-2009	02-Dec-2008	003	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.50		Semi Annual	01-Jul-2008	31-Dec-2008
10-Jul-2009	11-Jun-2009	003	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.50		Semi Annual	01-Jan-2009	30-Jun-2009
10-Apr-2004	12-Apr-2004	003	442	N	COPPER, DISSOLVED (UG/L AS CU)	<5		Semi Annual	01-Jan-2004	31-Mar-2004
10-Oct-2004	12-Oct-2004	003	442	N	COPPER, DISSOLVED (UG/L AS CU)	9		Semi Annual	01-Jul-2004	31-Dec-2004
10-Mar-2005	23-Feb-2005	003	442	N	COPPER, DISSOLVED (UG/L AS CU)	<5	phone number updated on 3/25/05	Semi Annual	01-Jan-2005	30-Jun-2005
10-Dec-2005	20-Dec-2005	003	442	N	COPPER, DISSOLVED (UG/L AS CU)	<5		Semi Annual	01-Jul-2005	31-Dec-2005
10-Jul-2006	02-Jun-2006	003	442	N	COPPER, DISSOLVED (UG/L AS CU)	13		Semi Annual	01-Jan-2006	30-Jun-2006
10-Jan-2007	28-Dec-2006	003	442	N	COPPER, DISSOLVED (UG/L AS CU)	<5.0		Semi Annual	01-Jul-2006	31-Dec-2006
10-Jul-2007	01-May-2007	003	442	N	COPPER, DISSOLVED (UG/L AS CU)	7		Semi Annual	01-Jan-2007	30-Jun-2007

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Due Date	Received Date	otfl	pram	nodisch	Parameter Description	CONCMAX	Comments	eporting Frequenc	MON START	MON END
10-Jan-2008	06-Dec-2007	003	442	N	COPPER, DISSOLVED (UG/L AS CU)	17	[FLOW/LoadAvg]:For parameter 257 the results for both TPH-DRO and TPH-GRO were below the lab QL (<0.50 mg/L) for test method No. 8015B. The VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jul-2007	31-Dec-2007
10-Jul-2008	16-Jun-2008	003	442	N	COPPER, DISSOLVED (UG/L AS CU)	<5	[PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE/ConcMax]:For parameter code 257 analysis results for both TPH-DRO and TPH-GRO were below the lab QL of 0.50 mg/L for test method. VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jan-2008	30-Jun-2008
10-Jan-2009	02-Dec-2008	003	442	N	COPPER, DISSOLVED (UG/L AS CU)	16		Semi Annual	01-Jul-2008	31-Dec-2008
10-Jul-2009	11-Jun-2009	003	442	N	COPPER, DISSOLVED (UG/L AS CU)	15		Semi Annual	01-Jan-2009	30-Jun-2009
10-Apr-2004	12-Apr-2004	003	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	31		Semi Annual	01-Jan-2004	31-Mar-2004
10-Oct-2004	12-Oct-2004	003	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	57		Semi Annual	01-Jul-2004	31-Dec-2004
10-Mar-2005	23-Feb-2005	003	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	27	phone number updated on 3/25/05	Semi Annual	01-Jan-2005	30-Jun-2005
10-Dec-2005	20-Dec-2005	003	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	<5		Semi Annual	01-Jul-2005	31-Dec-2005
10-Jul-2006	02-Jun-2006	003	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	1000		Semi Annual	01-Jan-2006	30-Jun-2006
10-Jan-2007	28-Dec-2006	003	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	45		Semi Annual	01-Jul-2006	31-Dec-2006
10-Jul-2007	01-May-2007	003	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	109		Semi Annual	01-Jan-2007	30-Jun-2007

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Due Date	Received Date	otfl	pram	nodisch	Parameter Description	CONCMAX	Comments	eporting Frequenc	MON START	MON END
10-Jan-2008	06-Dec-2007	003	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	75	[FLOW/LoadAvg]:For parameter 257 the results for both TPH-DRO and TPH-GRO were below the lab QL (<0.50 mg/L) for test method No. 8015B. The VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jul-2007	31-Dec-2007
10-Jul-2008	16-Jun-2008	003	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	21	[PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE/ConcMax]:For parameter code 257 analysis results for both TPH-DRO and TPH-GRO were below the lab QL of 0.50 mg/L for test method. VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jan-2008	30-Jun-2008
10-Jan-2009	02-Dec-2008	003	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	220		Semi Annual	01-Jul-2008	31-Dec-2008
10-Jul-2009	11-Jun-2009	003	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	90		Semi Annual	01-Jan-2009	30-Jun-2009
10-Apr-2004	12-Apr-2004	008	004	N	TSS	3		Semi Annual	01-Jan-2004	31-Mar-2004
10-Oct-2004	12-Oct-2004	008	004	N	TSS	4		Semi Annual	01-Jul-2004	31-Dec-2004
10-Mar-2005	23-Feb-2005	008	004	N	TSS	12	phone number updated on 3/25/05	Semi Annual	01-Jan-2005	30-Jun-2005
10-Dec-2005	20-Dec-2005	008	004	N	TSS	8	MAKEUP SAMPLE DONE OUTSIDE OF REQUIRED MONITORING PERIOD = DEEMED INVALID; amended DMR rcvd 2/8/06 w/ revised value for TSS - 2 samples taken during this period - 1 not representative and 1 not in accordance w/correct proceedures; resample done and value of 8 rcvd.	Semi Annual	01-Jul-2005	31-Dec-2005
10-Jul-2006	02-Jun-2006	008	004	N	TSS	25		Semi Annual	01-Jan-2006	30-Jun-2006
10-Jan-2007	28-Dec-2006	008	004	N	TSS	11		Semi Annual	01-Jul-2006	31-Dec-2006
10-Jul-2007	01-May-2007	008	004	N	TSS	5		Semi Annual	01-Jan-2007	30-Jun-2007

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Due Date	Received Date	otfl	pram	nodisch	Parameter Description	CONCMAX	Comments	eporting Frequenc	MON START	MON END
10-Jan-2008	06-Dec-2007	008	004	N	TSS	1	[FLOW/LoadAvg]:For parameter 257 the results for both TPH-DRO and TPH-GRO were below the lab QL (<0.50 mg/L) for test method No. 8015B. The VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jul-2007	31-Dec-2007
10-Jul-2008	16-Jun-2008	008	004	N	TSS	<1.0	[PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE/ConcMax]:For parameter code 257, analysis results for both TPH-DRO and TPH-GRO were below the lab QL of 0.50 mg/L for test method 8015B. VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jan-2008	30-Jun-2008
10-Jan-2009	02-Dec-2008	008	004	N	TSS	1.6		Semi Annual	01-Jul-2008	31-Dec-2008
10-Jul-2009	11-Jun-2009	008	004	N	TSS	26		Semi Annual	01-Jan-2009	30-Jun-2009
10-Apr-2004	12-Apr-2004	008	080	N	TEMPERATURE, WATER (DEG. C)	7		Semi Annual	01-Jan-2004	31-Mar-2004
10-Oct-2004	12-Oct-2004	008	080	N	TEMPERATURE, WATER (DEG. C)	27		Semi Annual	01-Jul-2004	31-Dec-2004
10-Mar-2005	23-Feb-2005	008	080	N	TEMPERATURE, WATER (DEG. C)	17	phone number updated on 3/25/05	Semi Annual	01-Jan-2005	30-Jun-2005
10-Dec-2005	20-Dec-2005	008	080	N	TEMPERATURE, WATER (DEG. C)	26	MAKEUP SAMPLE DONE OUTSIDE OF REQUIRED MONITORING PERIOD = DEEMED INVALID; amended DMR rcvd 2/8/06 w/ revised value for TSS - 2 samples taken during this period - 1 not representative and 1 not in accordance w/correct proceedures; resample done and value of 8 rcvd.	Semi Annual	01-Jul-2005	31-Dec-2005
10-Jul-2006	02-Jun-2006	008	080	N	TEMPERATURE, WATER (DEG. C)	11		Semi Annual	01-Jan-2006	30-Jun-2006
10-Jan-2007	28-Dec-2006	008	080	N	TEMPERATURE, WATER (DEG. C)	21		Semi Annual	01-Jul-2006	31-Dec-2006
10-Jul-2007	01-May-2007	008	080	N	TEMPERATURE, WATER (DEG. C)	16		Semi Annual	01-Jan-2007	30-Jun-2007

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Due Date	Received Date	otfl	pram	nodisch	Parameter Description	CONCMAX	Comments	eporting Frequenc	MON START	MON END
10-Jan-2008	06-Dec-2007	008	080	N	TEMPERATURE, WATER (DEG. C)	29	[FLOW/LoadAvg]:For parameter 257 the results for both TPH-DRO and TPH-GRO were below the lab QL (<0.50 mg/L) for test method No. 8015B. The VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jul-2007	31-Dec-2007
10-Jul-2008	16-Jun-2008	008	080	N	TEMPERATURE, WATER (DEG. C)	19	[PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE/ConcMax]:For parameter code 257, analysis results for both TPH-DRO and TPH-GRO were below the lab QL of 0.50 mg/L for test method 8015B. VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jan-2008	30-Jun-2008
10-Jan-2009	02-Dec-2008	008	080	N	TEMPERATURE, WATER (DEG. C)	24		Semi Annual	01-Jul-2008	31-Dec-2008
10-Jul-2009	11-Jun-2009	008	080	N	TEMPERATURE, WATER (DEG. C)	18		Semi Annual	01-Jan-2009	30-Jun-2009
10-Apr-2004	12-Apr-2004	008	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.5		Semi Annual	01-Jan-2004	31-Mar-2004
10-Oct-2004	12-Oct-2004	008	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.5		Semi Annual	01-Jul-2004	31-Dec-2004
10-Mar-2005	23-Feb-2005	008	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.5	phone number updated on 3/25/05	Semi Annual	01-Jan-2005	30-Jun-2005
10-Dec-2005	20-Dec-2005	008	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.5	MAKEUP SAMPLE DONE OUTSIDE OF REQUIRED MONITORING PERIOD = DEEMED INVALID; amended DMR rcvd 2/8/06 w/ revised value for TSS - 2 samples taken during this period - 1 not representative and 1 not in accordance w/correct proceedures; resample done and value of 8 rcvd.	Semi Annual	01-Jul-2005	31-Dec-2005

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Due Date	Received Date	otfl	pram	nodisch	Parameter Description	CONCMAX	Comments	Reporting Frequenc	MON START	MON END
10-Jul-2006	02-Jun-2006	008	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.50		Semi Annual	01-Jan-2006	30-Jun-2006
10-Jan-2007	28-Dec-2006	008	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.50		Semi Annual	01-Jul-2006	31-Dec-2006
10-Jul-2007	01-May-2007	008	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	0.5		Semi Annual	01-Jan-2007	30-Jun-2007
10-Jan-2008	06-Dec-2007	008	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.50	[FLOW/LoadAvg]:For parameter 257 the results for both TPH-DRO and TPH-GRO were below the lab QL (<0.50 mg/L) for test method No. 8015B. The VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jul-2007	31-Dec-2007
10-Jul-2008	16-Jun-2008	008	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.50	[PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE/ConcMax]:For parameter code 257, analysis results for both TPH-DRO and TPH-GRO were below the lab QL of 0.50 mg/L for test method 8015B. VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jan-2008	30-Jun-2008
10-Jan-2009	02-Dec-2008	008	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.50		Semi Annual	01-Jul-2008	31-Dec-2008
10-Jul-2009	11-Jun-2009	008	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.50		Semi Annual	01-Jan-2009	30-Jun-2009
10-Apr-2004	12-Apr-2004	008	442	N	COPPER, DISSOLVED (UG/L AS CU)	<5		Semi Annual	01-Jan-2004	31-Mar-2004
10-Oct-2004	12-Oct-2004	008	442	N	COPPER, DISSOLVED (UG/L AS CU)	7		Semi Annual	01-Jul-2004	31-Dec-2004
10-Mar-2005	23-Feb-2005	008	442	N	COPPER, DISSOLVED (UG/L AS CU)	<5	phone number updated on 3/25/05	Semi Annual	01-Jan-2005	30-Jun-2005

Due Date	Received Date	otfl	pram	nodisch	Parameter Description	CONCMAX	Comments	eporting Frequenc	MON START	MON END
10-Dec-2005	20-Dec-2005	008	442	N	COPPER, DISSOLVED (UG/L AS CU)	36	MAKEUP SAMPLE DONE OUTSIDE OF REQUIRED MONITORING PERIOD = DEEMED INVALID; amended DMR rcvd 2/8/06 w/ revised value for TSS - 2 samples taken during this period - 1 not representative and 1 not in accordance w/correct proceedures; resample done and value of 8 rcvd.	Semi Annual	01-Jul-2005	31-Dec-2005
10-Jul-2006	02-Jun-2006	008	442	N	COPPER, DISSOLVED (UG/L AS CU)	<5		Semi Annual	01-Jan-2006	30-Jun-2006
10-Jan-2007	28-Dec-2006	008	442	N	COPPER, DISSOLVED (UG/L AS CU)	<5.0		Semi Annual	01-Jul-2006	31-Dec-2006
10-Jul-2007	01-May-2007	008	442	N	COPPER, DISSOLVED (UG/L AS CU)	<5		Semi Annual	01-Jan-2007	30-Jun-2007
10-Jan-2008	06-Dec-2007	008	442	N	COPPER, DISSOLVED (UG/L AS CU)	16	[FLOW/LoadAvg]:For parameter 257 the results for both TPH-DRO and TPH-GRO were below the lab QL (<0.50 mg/L) for test method No. 8015B. The VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jul-2007	31-Dec-2007
10-Jul-2008	16-Jun-2008	008	442	N	COPPER, DISSOLVED (UG/L AS CU)	7	[PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE/ConcMax]:For parameter code 257, analysis results for both TPH-DRO and TPH-GRO were below the lab QL of 0.50 mg/L for test method 8015B. VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jan-2008	30-Jun-2008
10-Jan-2009	02-Dec-2008	008	442	N	COPPER, DISSOLVED (UG/L AS CU)	19		Semi Annual	01-Jul-2008	31-Dec-2008
10-Jul-2009	11-Jun-2009	008	442	N	COPPER, DISSOLVED (UG/L AS CU)	3.0		Semi Annual	01-Jan-2009	30-Jun-2009
10-Apr-2004	12-Apr-2004	008	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	25		Semi Annual	01-Jan-2004	31-Mar-2004

Due Date	Received Date	otfl	pram	nodisch	Parameter Description	CONCMAX	Comments	eporting Frequenc	MON START	MON END
10-Oct-2004	12-Oct-2004	008	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	51		Semi Annual	01-Jul-2004	31-Dec-2004
10-Mar-2005	23-Feb-2005	008	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	10	phone number updated on 3/25/05	Semi Annual	01-Jan-2005	30-Jun-2005
10-Dec-2005	20-Dec-2005	008	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	44	MAKEUP SAMPLE DONE OUTSIDE OF REQUIRED MONITORING PERIOD = DEEMED INVALID; amended DMR rcvd 2/8/06 w/ revised value for TSS - 2 samples taken during this period - 1 not representative and 1 not in accordance w/correct proceedures; resample done and value of 8 rcvd.	Semi Annual	01-Jul-2005	31-Dec-2005
10-Jul-2006	02-Jun-2006	008	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	37		Semi Annual	01-Jan-2006	30-Jun-2006
10-Jan-2007	28-Dec-2006	008	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	74		Semi Annual	01-Jul-2006	31-Dec-2006
10-Jul-2007	01-May-2007	008	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	40		Semi Annual	01-Jan-2007	30-Jun-2007
10-Jan-2008	06-Dec-2007	008	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	79	[FLOW/LoadAvg]:For parameter 257 the results for both TPH-DRO and TPH-GRO were below the lab QL (<0.50 mg/L) for test method No. 8015B. The VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jul-2007	31-Dec-2007
10-Jul-2008	16-Jun-2008	008	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	98	[PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE/ConcMax]:For parameter code 257, analysis results for both TPH-DRO and TPH-GRO were below the lab QL of 0.50 mg/L for test method 8015B. VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jan-2008	30-Jun-2008
10-Jan-2009	02-Dec-2008	008	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	140		Semi Annual	01-Jul-2008	31-Dec-2008

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Due Date	Received Date	otfl	pram	nodisch	Parameter Description	CONCMAX	Comments	eporting Frequenc	MON START	MON END
10-Jul-2009	11-Jun-2009	008	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	55		Semi Annual	01-Jan-2009	30-Jun-2009
10-Mar-2005	23-Feb-2005	009	004	N	TSS	5	phone number updated on 3/25/05	Semi Annual	01-Jan-2005	30-Jun-2005
10-Dec-2005	20-Dec-2005	009	004	N	TSS	31		Semi Annual	01-Jul-2005	31-Dec-2005
10-Jul-2006	02-Jun-2006	009	004	N	TSS	5.0		Semi Annual	01-Jan-2006	30-Jun-2006
10-Jan-2007	28-Dec-2006	009	004	N	TSS	5.0		Semi Annual	01-Jul-2006	31-Dec-2006
10-Jul-2007	01-May-2007	009	004	N	TSS	7		Semi Annual	01-Jan-2007	30-Jun-2007
10-Jan-2008	06-Dec-2007	009	004	N	TSS	9	[FLOW/LoadAvg]:For parameter 257 the results for both TPH-DRO and TPH-GRO were below the lab QL (<0.50 mg/L) for test method No. 8015B. The VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jul-2007	31-Dec-2007
10-Jul-2008	16-Jun-2008	009	004	N	TSS	2.9	[PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE/ConcMax]:For parameter code 257, analysis results for both TPH-DRO and TPH-GRO were below the lab QL of 0.50 mg/L for test method 8015B. VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jan-2008	30-Jun-2008
10-Jan-2009	02-Dec-2008	009	004	N	TSS	11		Semi Annual	01-Jul-2008	31-Dec-2008
10-Jul-2009	11-Jun-2009	009	004	N	TSS	4.8		Semi Annual	01-Jan-2009	30-Jun-2009
10-Apr-2004	12-Apr-2004	009	080	N	TEMPERATURE, WATER (DEG. C)	16		Semi Annual	01-Jan-2004	31-Mar-2004
10-Oct-2004	12-Oct-2004	009	080	N	TEMPERATURE, WATER (DEG. C)	27		Semi Annual	01-Jul-2004	31-Dec-2004
10-Mar-2005	23-Feb-2005	009	080	N	TEMPERATURE, WATER (DEG. C)	17	phone number updated on 3/25/05	Semi Annual	01-Jan-2005	30-Jun-2005
10-Dec-2005	20-Dec-2005	009	080	N	TEMPERATURE, WATER (DEG. C)	34		Semi Annual	01-Jul-2005	31-Dec-2005
10-Jul-2006	02-Jun-2006	009	080	N	TEMPERATURE, WATER (DEG. C)	9.0		Semi Annual	01-Jan-2006	30-Jun-2006
10-Jan-2007	28-Dec-2006	009	080	N	TEMPERATURE, WATER (DEG. C)	23		Semi Annual	01-Jul-2006	31-Dec-2006
10-Jul-2007	01-May-2007	009	080	N	TEMPERATURE, WATER (DEG. C)	21		Semi Annual	01-Jan-2007	30-Jun-2007

Due Date	Received Date	otfl	pram	nodisch	Parameter Description	CONCMAX	Comments	Reporting Frequenc	MON START	MON END
10-Jan-2008	06-Dec-2007	009	080	N	TEMPERATURE, WATER (DEG. C)	27	[FLOW/LoadAvg]:For parameter 257 the results for both TPH-DRO and TPH-GRO were below the lab QL (<0.50 mg/L) for test method No. 8015B. The VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jul-2007	31-Dec-2007
10-Jul-2008	16-Jun-2008	009	080	N	TEMPERATURE, WATER (DEG. C)	16	[PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE/ConcMax]:For parameter code 257, analysis results for both TPH-DRO and TPH-GRO were below the lab QL of 0.50 mg/L for test method 8015B. VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jan-2008	30-Jun-2008
10-Jan-2009	02-Dec-2008	009	080	N	TEMPERATURE, WATER (DEG. C)	25		Semi Annual	01-Jul-2008	31-Dec-2008
10-Jul-2009	11-Jun-2009	009	080	N	TEMPERATURE, WATER (DEG. C)	21		Semi Annual	01-Jan-2009	30-Jun-2009
10-Apr-2004	12-Apr-2004	009	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	1.7		Semi Annual	01-Jan-2004	31-Mar-2004
10-Oct-2004	12-Oct-2004	009	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	1.0		Semi Annual	01-Jul-2004	31-Dec-2004
10-Mar-2005	23-Feb-2005	009	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.5	phone number updated on 3/25/05	Semi Annual	01-Jan-2005	30-Jun-2005
10-Dec-2005	20-Dec-2005	009	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.5		Semi Annual	01-Jul-2005	31-Dec-2005
10-Jul-2006	02-Jun-2006	009	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.50		Semi Annual	01-Jan-2006	30-Jun-2006
10-Jan-2007	28-Dec-2006	009	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.50		Semi Annual	01-Jul-2006	31-Dec-2006

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Due Date	Received Date	otfl	pram	nodisch	Parameter Description	CONCMAX	Comments	Reporting Frequenc	MON START	MON END
10-Jul-2007	01-May-2007	009	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	0.6		Semi Annual	01-Jan-2007	30-Jun-2007
10-Jan-2008	06-Dec-2007	009	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.50	[FLOW/LoadAvg]:For parameter 257 the results for both TPH-DRO and TPH-GRO were below the lab QL (<0.50 mg/L) for test method No. 8015B. The VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jul-2007	31-Dec-2007
10-Jul-2008	16-Jun-2008	009	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.50	[PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE/ConcMax]:For parameter code 257, analysis results for both TPH-DRO and TPH-GRO were below the lab QL of 0.50 mg/L for test method 8015B. VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jan-2008	30-Jun-2008
10-Jan-2009	02-Dec-2008	009	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.50		Semi Annual	01-Jul-2008	31-Dec-2008
10-Jul-2009	11-Jun-2009	009	257	N	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	<0.50		Semi Annual	01-Jan-2009	30-Jun-2009
10-Apr-2004	12-Apr-2004	009	442	N	COPPER, DISSOLVED (UG/L AS CU)	22		Semi Annual	01-Jan-2004	31-Mar-2004
10-Oct-2004	12-Oct-2004	009	442	N	COPPER, DISSOLVED (UG/L AS CU)	37		Semi Annual	01-Jul-2004	31-Dec-2004
10-Mar-2005	23-Feb-2005	009	442	N	COPPER, DISSOLVED (UG/L AS CU)	8	phone number updated on 3/25/05	Semi Annual	01-Jan-2005	30-Jun-2005
10-Dec-2005	20-Dec-2005	009	442	N	COPPER, DISSOLVED (UG/L AS CU)	6		Semi Annual	01-Jul-2005	31-Dec-2005
10-Jul-2006	02-Jun-2006	009	442	N	COPPER, DISSOLVED (UG/L AS CU)	6		Semi Annual	01-Jan-2006	30-Jun-2006
10-Jan-2007	28-Dec-2006	009	442	N	COPPER, DISSOLVED (UG/L AS CU)	<5.0		Semi Annual	01-Jul-2006	31-Dec-2006

Due Date	Received Date	otfl	pram	nodisch	Parameter Description	CONCMAX	Comments	eporting Frequend	MON START	MON END
10-Jul-2007	01-May-2007	009	442	N	COPPER, DISSOLVED (UG/L AS CU)	10		Semi Annual	01-Jan-2007	30-Jun-2007
10-Jan-2008	06-Dec-2007	009	442	N	COPPER, DISSOLVED (UG/L AS CU)	18	[FLOW/LoadAvg]:For parameter 257 the results for both TPH-DRO and TPH-GRO were below the lab QL (<0.50 mg/L) for test method No. 8015B. The VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jul-2007	31-Dec-2007
10-Jul-2008	16-Jun-2008	009	442	N	COPPER, DISSOLVED (UG/L AS CU)	7	[PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE/ConcMax]:For parameter code 257, analysis results for both TPH-DRO and TPH-GRO were below the lab QL of 0.50 mg/L for test method 8015B. VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jan-2008	30-Jun-2008
10-Jan-2009	02-Dec-2008	009	442	N	COPPER, DISSOLVED (UG/L AS CU)	<5.0		Semi Annual	01-Jul-2008	31-Dec-2008
10-Jul-2009	11-Jun-2009	009	442	N	COPPER, DISSOLVED (UG/L AS CU)	4.0		Semi Annual	01-Jan-2009	30-Jun-2009
10-Apr-2004	12-Apr-2004	009	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	150		Semi Annual	01-Jan-2004	31-Mar-2004
10-Oct-2004	12-Oct-2004	009	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	464		Semi Annual	01-Jul-2004	31-Dec-2004
10-Mar-2005	23-Feb-2005	009	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	35	phone number updated on 3/25/05	Semi Annual	01-Jan-2005	30-Jun-2005
10-Dec-2005	20-Dec-2005	009	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	8		Semi Annual	01-Jul-2005	31-Dec-2005
10-Jul-2006	02-Jun-2006	009	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	41		Semi Annual	01-Jan-2006	30-Jun-2006
10-Jan-2007	28-Dec-2006	009	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	30		Semi Annual	01-Jul-2006	31-Dec-2006
10-Jul-2007	01-May-2007	009	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	41		Semi Annual	01-Jan-2007	30-Jun-2007

12-9

Due Date	Received Date	otfl	pram	nodisch	Parameter Description	CONCMAX	Comments	eporting Frequenc	MON START	MON END
10-Jan-2008	06-Dec-2007	009	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	89	[FLOW/LoadAvg]:For parameter 257 the results for both TPH-DRO and TPH-GRO were below the lab QL (<0.50 mg/L) for test method No. 8015B. The VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jul-2007	31-Dec-2007
10-Jul-2008	16-Jun-2008	009	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	42	[PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE/ConcMax]:For parameter code 257, analysis results for both TPH-DRO and TPH-GRO were below the lab QL of 0.50 mg/L for test method 8015B. VPDES Permit QL is 5.0 mg/L.	Semi Annual	01-Jan-2008	30-Jun-2008
10-Jan-2009	02-Dec-2008	009	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	20		Semi Annual	01-Jul-2008	31-Dec-2008
10-Jul-2009	11-Jun-2009	009	448	N	ZINC, DISSOLVED (AS ZN) (UG/L)	37		Semi Annual	01-Jan-2009	30-Jun-2009

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ATTACHMENT 7

SPECIAL CONDITIONS RATIONALE

VPDES PERMIT PROGRAM
LIST OF SPECIAL CONDITIONS RATIONALE

Name of Condition:

B. OTHER REQUIREMENTS OR SPECIAL CONDITIONS

1.a. Water Quality Standards Reopener

Rationale: The VPDES Permit Regulation, 9 VAC 25-31-220 D requires effluent limitations to be established which will contribute to the attainment or maintenance of water quality criteria.

1.b. Nutrient Enriched Waters Reopener

Rationale: The Policy for Nutrient Enriched Waters, 9 VAC 25-40 -10 allows reopening of permits for discharges into waters designated as nutrient enriched if total phosphorus and total nitrogen in a discharge potentially exceed specified concentrations. The policy also anticipates that future total phosphorus and total nitrogen limits may be needed.

2. Operations & Maintenance (O & M) Manual

Rationale: The State Water Control Law, Section 62.1-44.21 allows requests for any information necessary to determine the effect of the discharge on State waters. Section 401 of the Clean Water Act requires the permittee to provide opportunity for the state to review the proposed operations of the facility. In addition, 40 CFR 122.41 (e) requires the permittee, at all times, to properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) in order to achieve compliance with the permit (includes laboratory controls and QA/QC).

3. Notification Levels

Rationale: The VPDES Permit Regulation, 9 VAC 25-31-200 and 40 CFR 122.42 (a) require notification of the discharge of certain parameters at or above specific concentrations for existing manufacturing, commercial mining and silvicultural discharges.

4. Quantification Levels Under Part I.A.

Rationale: States are authorized to establish monitoring methods and procedures to compile and analyze data on water quality, as per 40 CFR part 130, Water Quality Planning and Management, subpart 130.4. Section b. of the special condition defines QL and is included per BPJ to clarify the difference between QL and MDL.

5. Compliance Reporting Under Part I.A.

Rationale: Defines reporting requirements for toxic parameters and some conventional parameters with quantification levels to ensure consistent, accurate reporting on submitted reports.

6. Cooling Water and Boiler Additives

Rationale: Chemical additives may be toxic or otherwise violate the receiving stream water quality standards. Upon notification, the regional office can determine if this new additive will warrant a modification to the permit.

7. Sampling Methodology for Specific Outfalls 001,003,005,008,009

Rationale: Defines methodology for collecting representative effluent samples in conformance with applicable regulations.

C. TOXICS MANAGENENT PROGRAM (TMP)

Rationale: To determine the need for pollutant specific and/or whole effluent toxicity limits as may be required by the VPDES Permit Regulation, 9 VAC 25-31-220 D. and 40 CFR 122.44 (d). See Attachment 9 of this fact sheet for additional justification.

ATTACHMENT 8

TOXICS MONITORING/TOXICS REDUCTION/ WET LIMIT RATIONALE

8-1

MEMORANDUM

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

TIDEWATER REGIONAL OFFICE

5636 Southern Boulevard Virginia Beach, VA 23462

SUBJECT: TMP language for NASA-Langley Permit Reissuance (VA0024741)

TO: Debra Thompson

FROM: Deanna Austin

DATE: 8/24/09

COPIES: TRO File (PPP #651)

NASA-Langley has a number of permitted outfalls onsite. Outfalls 003, 008, and 009 have been monitored for acute and chronic toxicity for the past permit term. The three outfalls that have toxicity monitoring discharge all discharge cooling water and stormwater. Outfall 003 also discharges backwash brine solution, outfall 008 and 009 also discharge vehicle wash water, and outfall 009 also discharges compressor blowdown and jet rinse. All outfalls discharge to an unnamed tributary of Tabbs Creek.

In 2007 a permit modification was performed to change the sample type to 5 grab /8 hour period from a 24 hour composite. This was to match the other sample types for all monitored parameters in the permit. During the 2007 modification, I wrote in the TMP rationale that it was not known if the facility actually needs chronic toxicity monitoring based upon the definition of continuous discharge. I recommended that during the next two years of the permit term that the facility begin to track the frequency of discharge at the outfalls where toxicity testing is required. If the discharge does not meet the definition of continuous discharge then chronic toxicity monitoring will not be needed and will not be added back into the permit at reissuance. This was not done. Again, it is still not known if chronic toxicity monitoring is needed but without flow data to support the removal of the chronic monitoring it will remain in the permit. The facility can perform flow studies to make the determination and ask for a modification at any time during the permit term. The modification would be at the expense of the facility.

The data collected during the current permit term (2004-2009) is shown below.

OUTFALL	DESCRIPT	SPECIES	SAMPLEDT	LC50	SURVIVAL	NOEC	TU	SAMPLETYPE	LAB
003	1st Annual Acute	M.b.	3/7/05	100	100		1	24-FPC	JR Reed
003	2nd Annual Acute	M.b.	3/29/06	100	95		1	24-FPC	JR Reed
003	3rd Annual Acute	M.b.	10/3/07	100	100		1	5 G/8hr	JR Reed
003	4th Annual Acute	M.b.	3/12/08	100	100		1	5 G/8hr	JR Reed
003	1st Annual Chronic	M.b.	3/7/05		50	25	4	24-FPC	JR Reed
003	2nd Annual Chronic	M.b.	3/27/06		100	100	1	24-FPC	JR Reed

003	3rd Annual Chronic	M.b.	10/1/07		100	100	1	5 G/8hr	JR Reed
003	4th Annual Chronic	M.b.	3/10/08		100	100	1	5 G/8hr	JR Reed
008	1st Annual Acute	M.b.	5/11/05	100	100		1	24-FPC	JR Reed
008	2nd Annual Acute	M.b.	4/6/06	100	100		1	24-FPC	JR Reed
008	3rd Annual Acute	M.b.	10/31/07	100	90		1	5 G/8hr	JR Reed
008	4th Annual Acute	M.b.	4/30/08	100	90		1	5 G/8hr	JR Reed

008	1st Annual Chronic	M.b.	5/9/05		100	100	1	24-FPC	JR Reed
008	2nd Annual Chronic	M.b.	4/4/06		100	50	2	24-FPC	JR Reed
008	Repeat test 2006	M.b.	8/20/06		100	50	2	24-FPC	JR Reed
008	3rd Annual Chronic	M.b.	10/29/07		100	27	3.7	5 G/8hr	JR Reed
008	4th Annual Chronic	M.b.	4/28/08		100	27	3.7	5 G/8hr	JR Reed
009	1st Annual Acute	M.b.	4/14/05	100	100		1	24-FPC	JR Reed
009	2nd Annual Acute	M.b.	4/26/06	100	100		1	24-FPC	JR Reed
009	3rd Annual Acute	M.b.	10/24/07	100	100		1	5 G/8hr	JR Reed
009	4th Annual Acute	M.b.	3/26/08	100	100		1	5 G/8hr	JR Reed

009	1st Annual Chronic	M.b.	4/11/05	100	100	1	24-FPC	JR Reed
009	2nd Annual Chronic	M.b.	4/24/06	100	50	2	24-FPC	JR Reed
009	3rd Annual Chronic	M.b.	10/22/07	100	100	1	5 G/8hr	JR Reed
009	4th Annual Chronic	M.b.	3/24/08	100	100	1	5 G/8hr	JR Reed

M.b. - *Mysidopsis bahia*, which is now known as *Americamysis bahia*

Please note the name change for M.b. to Americamysis bahia (A.b.). All future references for this species will be seen as A.b.

The following TMP language is recommended for the reissuance of the NASA-Langley VPDES permit VA0024741.

ATTACHMENT 9

MATERIAL STORED

Continued from the Front

IV. Narrative Description of Pollutant Sources

A. For each outfall, provide an estimate of the area (include units) of imperious surfaces (including paved areas and building roofs) drained to the outfall, and an estimate of the total surface area drained by the outfall.

Outfall Number	Area of Impervious Surface *(provide units)*	Total Area Drained *(provide units)*	Outfall Number	Area of Impervious Surface *(provide units)*	Total Area Drained *(provide units)*
001	10.45 acres	22 acres	006	2.87 acres	26 acres
002	7.72 acres	20 acres	007	2.87 acres	6 acres
003	33.79 acres	100 acres	008	25.98 acres	62 acres
004	4.68 acres	9 acres	009	26.11 acres	42 acres
005	31.05 acres	155 acres	010	6.06 acres	7 acres

B. Provide a narrative description of significant materials that are currently or in the past three years have been treated, stored or disposed in a manner to allow exposure to storm water; method of treatment, storage, or disposal; past and present materials management practices employed to minimize contact by these materials with storm water runoff; materials loading and access areas, and the location, manner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied.

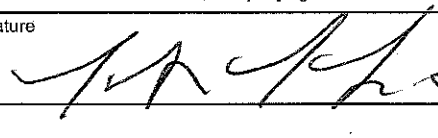
No materials currently are or in the past three years have been treated, stored or disposed of in a manner to allow exposure to storm water. All LaRC personnel and on-site contractors are required to follow the procedures and guidelines set forth in NASA Langley Procedural Requirements (LPR) 8800.1, Environmental Program Manual,as well as LaRC's Environmental Management and Sustainability Plan. Facility personnel who handle chemicals and materials with the potential to pollute are required to attend annual environmental training. In addition, materials management procedures are outlined in LaRC's Integrated Spill Contingency Plan and the VPDES Operations and Maintenance Plan. Oil tanker off-loading areas at the Steam Plant and the Hangar are paved and bermed to divert spills and the valve on the oil water separator at the hangar fueling pad is closed during fueling operations.
Herbicides are applied sparingly to trees and shrubs that line the major roadways. Less than 500 gallons of dilute herbicide (glyphosphate) are applied annually, as needed. With the exception of food processing areas (cafeteria) pesticides are applied sparingly. Application and materials handling is performed by state-certified applicators and/or registered technicians.

C. For each outfall, provide the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of the treatment the storm water receives, including the schedule and type of maintenance for control and treatment measures and the ultimate disposal of any solid or fluid wastes other than by discharge.

Outfall Number	Treatment	List Codes from Table 2F-1
003 and 009	Oil Water Separator unit - The inlet to the separator is a 42-inch concrete pipe. The outlet from the separator is similar to an inverted weir. Absorbent pads are placed inside the separator and are changed out regularly. The pads are disposed of at a permitted landfill. Outfall 009 also has absorbent boom placed outside of the separator with boom disposed of in same manner as pads.	4A
004, 008 and 010	Absorbent booms are placed in ditches and culverts of outfalls as a precautionary measure. The boom is regularly switched out and disposed of at an appropriately permitted landfill.	4A

V. Nonstormwater Discharges

A. I certify under penalty of law hat the outfall(s) covered by this application have been tested or evaluated for the presence of nonstormwater discharges, and that all nonstormwater discharged from these outfall(s) are identified in either an accompanying Form 2C or From 2E application for the outfall.

Name and Official Title *(type or print)*	Signature	Date Signed
Lesa B. Roe, Director		4/23/09

B. Provide a description of the method used, the date of any testing, and the onsite drainage points that were directly observed during a test.

NASA LaRC evaluates each outfall for the presence of nonstormwater discharges through performing weekly visual inspections at each outfall, performing annual environmental audits of facilities and operations, and using GIS to map discharge and sewer lines leading from facilities. Additionally, every facility at LaRC has a Facility Environmental Coordinator (FEC) who is responsible for ensuring that their facility operates in accordance with LaRC's environmental permits. The FEC of each facility within the drainage area of each outfall was contacted during the application process to verify any nonstormwater discharges from their facility. Also, LaRC's MS4 Program Plan includes provisions for illicit discharge detection.

VI. Significant Leaks or Spills

Provide existing information regarding the history of significant leaks or spills of toxic or hazardous pollutants at the facility in the last three years, including the approximate date and location of the spill or leak, and the type and amount of material released.

October 23, 2008 - sanitary sewer line break in an 8-inch force main sewer line at the corner of Langley Blvd and West Taylor Street by the parking lot for Building 1268. Estimated 700 gallons of sewage spilled with 500 gallons entering storm drain. Sewage line was isolated. NASA LaRC immediately notified the DEQ,the VA Dept. of Health and Hampton Roads Sanitation District. (2009-T-0407)

January 21, 2009 - oil spill at Outfall 008. Approximately 10-40 gallons of oil estimated. The spill was traced back to the basement sumps in Building 1251 (Unitary Wind Tunnel). The bulk of the oil was contained with boom and IMS suctioned out the pipe and drainage ditch. NASA LaRC immediately notified the NRC(Report #895393) and DEQ(2009-T-0639).

ATTACHMENT 10

RECEIVING WATERS INFO./ TIER DETERMINATION/STORET DATA/ STREAM MODELING

M E M O R A N D U M

Department of Environmental Quality
Tidewater Regional Office

5636 Southern Boulevard — Virginia Beach, VA 23462

SUBJECT: VPDES Application Requests
NASA Langley Research Center - VPDES Permit No. VA0024741

~~TO:~~ From Stephen Cioccia, TRO
Willia L Thompson

~~FROM:~~ To Debbie Thompson, TRO

DATE: August 4, 2009

COPIES: TRO File - Facility #651 PPP

An application has been received for the following facility:

NASA Langley Research Center

Topo Map Name:
Hampton & Newport News **#65 C&D** Permit No.: **VA0024741**

Receiving Stream: **See Attached Maps**

Attached is a Topographic Map showing facility boundaries and outfall location(s).

Attached is a STORET Request Form if STORET data is requested.

We request the following information from you: 001, 003, 005, 006, 007, 008 009, 011, 012

1. __X__ Tier Determination. Tier: 1 (All above outfalls discharge to receiving stream with 7Q10 = 0)
Please include a basis for the tier determination. See attachment 1

2. Not requested STORET Data and STORET Station Location(s).

3. __X__ Is this facility mentioned in a Management Plan?

__✓__ No _____ Yes _____ No, but will be included when the Plan is updated.

4. __X__ Are limits contained in a Management Plan?

__✓__ No _____ Yes **(If Yes, Please include the basis for the limits.)**

5. __X__ Does this discharge go to a 303(d) stream segment? No

Return Due Date: **August 18, 2009** Date Returned: 8/18/09

STORET Station: N/A

STORET Station: _____

Until further guidance is provided by OWRM Permits, assessment of waters for NH_3 should be based upon OWRM Guidance No. 93-015 from Larry G. Lawson, dated June 22, 1993.

The above guidance specifies that the ambient NH_3 data should be compared to the NH_3 standard (calculated using 90th percentile of ambient data for pH and temperature of that segment) and by using the "STANDARDS.EXE Program" developed by OWRM Permits Modelling. (These environmental conditions are considered critical design conditions to protect water quality and to comply with WQS.) If the 97th percentile of the in-stream data is greater than either of the calculated NH_3 standards (chronic or acute), then OWRM considers the standard is being violated and the segment is WQL.

2.4.7 Wasteload Allocations Where The 7Q10 Is Zero *Or Minimal*

A discharge to a water course with a 7Q10 of zero or near zero would be required to have effluent limits that would comply with water quality standards, at a minimum. The discharge would have to be "self sustaining" so to comply with water quality standards. Therefore, the discharge would be WQL and the receiving water course with a 7Q10 of zero near zero would be considered a tier 1 segment.

Dry-dit = Tier 1

A discharge to a tier 1 water that empties into a tier 2 water would have to be evaluated for antidegradation at the point of confluence of the two water courses, if the discharge is in close enough proximity to impact the tier 2 water. In the above scenario, antidegradation requirements to protect tier 2 waters may apply to a discharge to a tier 1 water. Therefore, effluent limits may be more stringent than required by the numerical water quality standards.

If a discharge occurs to a dry ditch or tributary that empties into a free flowing stream and the distance from the discharge to the next confluence is too short to model (based upon the current modelling programs), then the discharge should be modelled as if it occurs directly to the free flowing stream.

2.4.8 Estuaries - Wasteload Allocations & TMDL Development

Similar to freshwater streams, water quality wasteload allocations (WQWLAs) and TMDLs in all tidal influenced waters will be expressed as a mass limitation for the conventional parameters (BOD_5, $cBOD_5$, TKN, and NH_3) and as a concentration for toxics.

Tidal freshwater segments and transition zone segments identified

Attachment 1-1

Tier 1 Justification for Low Flow Streams

10-3

DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER DIVISION

OFFICE OF WATER RESOURCE MANAGEMENT

(SECOND DRAFT)

GUIDANCE MANUAL

FOR THE

VIRGINIA WATER QUALITY MANAGEMENT PLAN

March 4, 1994

Attachment 1-2

ATTACHMENT 11

303(d) LISTED SEGMENTS

NASA Langley Research Center
VPDES Permit No. VA0024741

303(d) Listed Segments
And
Tier Designation

Review by TRO Planning Department concluded that all flows into unnamed tributaries and/or ditch systems are NOT considered flows into the impaired stream segments. Therefore, for this permit reissuance, tier designation and 303(d) listed segment designation has changed. ALL point source outfalls are designated Tier 1 and none of the outfalls are listed as 303(d) receiving segments. This is a change from the pervious permit.

MEMORANDUM 11-2

Department of Environmental Quality
Tidewater Regional Office

5636 Southern Boulevard Virginia Beach, VA 23462

SUBJECT: VPDES Application Requests
NASA Langley Research Center - VPDES Permit No. VA0024741

From ~~TO:~~ Stephen Cioccia, TRO
Willia L Thompson

To ~~FROM:~~ Debbie Thompson, TRO

DATE: August 4, 2009

COPIES: TRO File - Facility #651 PPP

An application has been received for the following facility:

NASA Langley Research Center

Topo Map Name:
Hampton & Newport News #**65 C&D** Permit No.: **VA0024741**

Receiving Stream: **See Attached Maps**

Attached is a Topographic Map showing facility boundaries and outfall location(s).

Attached is a STORET Request Form if STORET data is requested.

We request the following information from you: 001, 003, 005, 006, 007, 008 009, 011, 012

1. __X__ Tier Determination. Tier: 1 (All above outfalls discharge to receiving stream with 7Q10≥0)
Please include a basis for the tier determination. See attachment 1

2. Not requested STORET Data and STORET Station Location(s).

3. __X__ Is this facility mentioned in a Management Plan?

__✓__ No _____ Yes _____ No, but will be included when the Plan is updated.

4. __X__ Are limits contained in a Management Plan?

__✓__ No _____ Yes **(If Yes, Please include the basis for the limits.)**

5. __X__ Does this discharge go to a 303(d) stream segment? No

Return Due Date: **August 18, 2009** Date Returned: 8/18/09

STORET Station: N/A

STORET Station: _____

ATTACHMENT 12

TABLE III(a) AND TABLE III(b) - CHANGE SHEETS

TABLE III(a)

VPDES PERMIT PROGRAM
Permit Processing Change Sheet

1. Effluent Limits and Monitoring Schedule: (List any changes FROM PREVIOUS PERMIT and give a brief rationale for the changes).

OUTFALL NUMBER	PARAMETER CHANGED	MONITORING LIMITS CHANGED FROM / TO	EFFLUENT LIMITS CHANGED FROM / TO	RATIONALE	DATE & INITIAL
004	ALL	Delete All	Delete All	All activities have ceased and buildings demolished	DLT 7/09
010	ALL	Delete All	Delete All	All activities have ceased and buildings demolished	DLT 7/09

OTHER CHANGES FROM:	CHANGED TO:	DATE & INITIAL
001,002,003,008,009,011,012 - Tier 2	Tier 1	DLT 8/09
005,006,007 - 303(d) Part 1A	Not on 303(d) List	DLT 8/09
TMDL Reopener Special Condition - DELETE	Not Applicable for this reissuance - No discharge outfalls on 303(d) list	DLT 8/09

12-1

TABLE III(b)

VPDES PERMIT PROGRAM
Permit Processing Change Sheet

1. Effluent Limits and Monitoring Schedule: (List any changes MADE DURING PERMIT PROCESS and give a brief rationale for the changes).

OUTFALL NUMBER	PARAMETER CHANGED	MONITORING LIMITS CHANGED FROM / TO	EFFLUENT LIMITS CHANGED FROM / TO	RATIONALE	DATE & INITIAL
001					

OTHER CHANGES FROM:	CHANGED TO:	DATE & INITIAL

ATTACHMENT 13

NPDES INDUSTRIAL PERMIT RATING WORKSHEET
AND
EPA PERMIT CHECKLIST

15-1

NPDES Permit Rating Work Sheet

_X_ Regular Addition
___ Discretionary Addition
___ Score change, but no 7tatus change
___ Deletion

NPDES NO: |_V_|_A_|_0_|_0_|_2_|_4_|_7_|_4_|_1|

Facility Name:

|_N_|_A_|_S_|_A_|_L_|_A_|_N_|_G_|_L_|_E_|_Y_|_R_|_E_|_S_|_E_|_A_|_R_|_C_|_H_|_C_|_E_|_N_|_T_|_E_|_R_|

City: |_H_|_A_|_M_|_P_|_T_|_O_|_N_|

Receiving Water: |_C_|_H_|_E_|_S_|_A_|_P_|_E_|_A_|_K_|_E_|_B_|_A_|_Y_|

Reach Number: |_|_|_|_|_|_|_|_|_|

Is this facility a steam electric power plant (SIC=4911) with one or more of the following characteristics?

1. Power output 500 MW or greater (not using a cooling pond/lake)
2. A nuclear power plant
3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rate

___ YES: score is 600 (stop here) _X_ NO (continue)

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

___ YES; score is 700 (stop here)
_X_ NO (continue)

FACTOR 1: Toxic Pollutant Potential

PCS SIC Code: |_|_|_|_| Primary SIC Code: |_9|_6|_6|_1|

Other SIC Codes: |_|_|_|_| |_|_|_|_| |_|_|_|_| |_|_|_|_|

Industrial Subcategory Code: |_|_|_| (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. Be sure to use the TOTAL toxicity potential column and check one

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
___ No process waste streams	0	0	___ 3.	3	15	___ 7.	7	35
_X_ 1.	1	5	___ 4.	4	20	___ 8.	8	40
___ 2.	2	10	___ 5.	5	25	___ 9.	9	45
			___ 6.	6	30	___ 10.	10	50

Code Number Checked: |_0_|_0_|

Total Points Factor 1: |_0_|_5_|

FACTOR 2: Flow/Stream Flow Volume *(Complete Either Section A or Section B; check only one)*

Section A--Wastewater Flow Only Considered

Wastewater Type (See Instructions)			Code	Points
Type I:	Flow < 5 MGD	___	11	0
	Flow 5 to 10 MGD	___	12	10
	Flow > 10 to 50 MGD	___	13	20
	Flow > 50 MGD	___	14	30
Type II:	Flow < 1 MGD	_X_	21	10
	Flow 1 to 5 MGD	___	22	20
	Flow > 5 to 10 MGD	___	23	30
	Flow > 10 MGD	___	24	50
Type III:	Flow < 1 MGD	___	31	0
	Flow 1 to 5 MGD	___	32	10
	Flow > 5 to 10 MGD	___	33	20
	Flow > 10 MGD	___	34	30

Section B--Wastewater and Stream Flow Considered

Wastewater Type (See Instructions)	Percent of Instream Wastewater Concentration at Receiving Stream Low Flow		Code	Points
Type I/III:	< 10%	___	41	0
	> 10% to < 50%	___	42	10
	> 50%	___	43	20
Type II:	<10%	___	51	0
	> 10% to < 50%	___	52	20
	> 50%	___	53	30

Code Checked from Section A or B: |_2_|_1_|

Total Points Factor 2: |_1_|_0_|

NPDES Permit Rating Work Sheet

NPDES No.: |_V_|_A_|_0_|_0_|_2_|_4_|_7_|_4_|_1_|

FACTOR 3: Conventional Pollutants

(only when limited by the permit)

A. Oxygen Demanding Pollutant: (check one) ___ BOD ___ COD ___ Other:_____

		Code	*Points*
Permit Limits: (check one)	___ < 100 lbs/day	1	0
	___ 100 to 1000 lbs/day	2	5
	___ >1000 to 3000 lbs/day	3	15
	___ >3000 lbs/day	4	20

Code Checked: |___|

Points Scored: |_N_|_A_|

B. Total Suspended Solids (TSS)

		Code	*Points*
Permit Limits: (check one)	_X_ < 100 lbs/day	1	0
	___ 100 to 1000 lbs/day	2	5
	___ >1000 to 5000 lbs/day	3	15
	___ >5000 lbs/day	4	20

Code Checked: |_1_|

Points Scored: |_0_|__0|

C. Nitrogen Pollutant: (check one) ___ Ammonia ___ Other: _____

		Code	*Points*
Permit Limits: (check one)	___ < 300 lbs/day	1	0
	___ 300 to 1000 lbs/day	2	5
	___ >1000 to 3000 lbs/day	3	15
	___ >3000 lbs/day	4	20

Code Checked: |___|

Points Scored: |_N_|_A_|

Total Points Factor 3:|_0_|_0_|

FACTOR 4: Public Health Impact

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this includes any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above referenced supply.

___ YES (if yes, check toxicity potential number below)
_X_ NO (if no, go to Factor 5)

Determine the human health toxicity potential from Appendix A. Use the same SIC code and subcategory reference as in Factor 1. (Be sure to use the human health toxicity group column -- check one below)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
___ No process waste streams	0	0	___ 3.	3	0	___ 7.	7	15
___ 1.	1	0	___ 4.	4	0	___ 8.	8	20
___ 2.	2	0	___ 5.	5	5	___ 9.	9	25
			___ 6.	6	10	___ 10.	10	30

Code Number Checked: |___|___|

Total Points Factor 4: |_N_|_A_|

NPDES Permit Rating Work Sheet

NPDES No.: |_V_|_A_|_0_|_0_|_2_|_4_|_7_|_4_|_1_|

FACTOR 5: Water Quality Factors

A. Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-based federal effluent guidelines, or technology-based state effluent guidelines), or has a wasteload allocation been assigned to the discharge?

	Code	Points
___ Yes	1	10
_X_ No	2	0

B. Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?

	Code	Points
_X_ Yes	1	0
___ No	2	5

C. Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?

	Code	Points
___ Yes	1	10
_X_ No	2	0

Code Number Checked: A |_2_| B |_0_| C |_2_|

Points Factor 5: A |___|_0_| + B |__0| + C |___|_0_| = |___|_0_| **TOTAL**

FACTOR 6: Proximity to Near Coastal Waters

A. Base Score: Enter flow code here (from Factor 2): |_2_|_1_| *Enter the multiplication factor that corresponds to the flow code:* |_._|_1_|

Check appropriate facility HPRI Code (from PCS):

HPRI #	*Code*	*HPRI Score*	Flow Code	Multiplication Factor
___ 1	1	20	11, 31, or 41	0.00
			12, 32, or 42	0.05
___ 2	2	0	13, 33, or 43	0.10
			14 or 34	0.15
_X_ 3	3	30	21 or 51	0.10
			22 or 52	0.30
___ 4	4	0	23 or 53	0.60
			24	1.00
___ 5	5	20		

HPRI code checked: |_3_|

Base Score: (HPRI Score) __30_____ **x (Multiplication Factor)** __.1_____ = _____3_____ **(TOTAL POINTS)**

B. Additional Points--NEP Program
For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions) or the Chesapeake Bay?

	Code	Points
_X_ Yes	1	10
___ No	2	0

C. Additional Points--Great Lakes Area of Concern
for a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 areas of concern (see instructions)

	Code	Points
___ Yes	1	10
_X_ No	2	0

Code Number Checked: A |__3| B |_1_| C |_2_|

Points Factor 6: A |___|_3_| + B |_1_|_0_| + C |___|_0_| = |_____13_____| **TOTAL**

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NPDES Permit Rating Work Sheet

NPDES NO: |_V_|_A_|_0_|_0_|_2_|_4_|_7_|_4_|_1_|

SCORE SUMMARY

Factor	Description	Total Points
1	Toxic Pollutant Potential	5
2	Flow/Stream flow Volume	10
3	Conventional Pollutants	0
4	Public Health Impacts	0
5	Water Quality Factors	0
6	Proximity to Near Coastal Waters	13
	TOTAL (Factors 1-6)	**28**

S1. Is the total score equal to or greater than 80? ___ Yes (Facility is a major) _x_ No

S2. If the answer to the above question is no, would you like this facility to be discretionary major?
___ No
___ Yes (add 500 points to the above score and provide reason below:

Reason:

_____

_____

_____

_____

_____

NEW SCORE: 28

OLD SCORE: 28

Debra L. Thompson
Permit Reviewer's Name

(757) 518-2162
Phone Number

August 3, 2009
Date

Revised 2/2003

State "Transmittal Checklist" to Assist in Targeting Municipal and Industrial Individual NPDES Draft Permits for Review

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name: NASA Langley Research Center

NPDES Permit Number: VA0024741

Permit Writer Name: Debra L. Thompson

Date: August 3, 2009

Major [ ] **Minor** [X] **Industrial** [X] **Municipal** [ ]

I.A. Draft Permit Package Submittal Includes:	**Yes**	**No**	**N/A**
1. Permit Application?	X		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	X		
3. Copy of Public Notice?		X	
4. Complete Fact Sheet?	X		
5. A Priority Pollutant Screening to determine parameters of concern?	X		
6. A Reasonable Potential analysis showing calculated WQBELs?	X		
7. Dissolved Oxygen calculations?		X	
8. Whole Effluent Toxicity Test summary and analysis?	X		
9. Permit Rating Sheet for new or modified industrial facilities?	X		

I.B. Permit/Facility Characteristics	**Yes**	**No**	**N/A**
1. Is this a new, or currently unpermitted facility?		X	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	X		
3. Does the fact sheet **or** permit contain a description of the wastewater treatment process?	X		

I.B. Permit/Facility Characteristics – cont.	Yes	No	N/A
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		X	
5. Has there been any change in streamflow characteristics since the last permit was developed?		X	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		X	
7. Does the fact sheet **or** permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8. Does the facility discharge to a 303(d) listed water?	X		
a. Has a TMDL been developed and approved by EPA for the impaired water?		X	
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?		X	
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?		X	
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?			
10. Does the permit authorize discharges of storm water?	X		
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		X	
12. Are there any production-based, technology-based effluent limits in the permit?		X	
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		X	
14. Are any WQBELs based on an interpretation of narrative criteria?		X	
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		X	
16. Does the permit contain a compliance schedule for any limit or condition?		X	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		X	
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?			X
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		X	
20. Have previous permit, application, and fact sheet been examined?	X		

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Checklist – for POTWs

(To be completed and included in the record only for POTWs)

II.A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?			
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?			

II.B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?			
2. Does the fact sheet discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?			

II.C. Technology-Based Effluent Limits (POTWs)	Yes	No	N/A
1. Does the permit contain numeric limits for ALL of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS, and pH?			
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?			
a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			
3. Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?			
4. Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly) limits?			
5. Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average)?			
a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			

II.D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?			
2. Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL?			
II.D. Water Quality-Based Effluent Limits – cont.	**Yes**	**No**	**N/A**
3. Does the fact sheet provide effluent characteristics for each outfall?			

4. Does the fact sheet document that a "reasonable potential" evaluation was performed?			
a. If yes, does the fact sheet indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?			
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?			
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?			
d. Does the fact sheet indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?			
e. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?			
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?			
6. For all final WQBELs, are BOTH long-term AND short-term effluent limits established?			
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?			
8. Does the record indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?			

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?			
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?			
3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?			
4. Does the permit require testing for Whole Effluent Toxicity?			

II.F. Special Conditions	Yes	No	N/A
1. Does the permit include appropriate biosolids use/disposal requirements?			
2. Does the permit include appropriate storm water program requirements?			

II.F. Special Conditions – cont.	Yes	No	N/A
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			
4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?			

5. Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?			
6. Does the permit authorize discharges from Combined Sewer Overflows (CSOs)?			
a. Does the permit require implementation of the "Nine Minimum Controls"?			
b. Does the permit require development and implementation of a "Long Term Control Plan"?			
c. Does the permit require monitoring and reporting for CSO events?			
7. Does the permit include appropriate Pretreatment Program requirements?			

II.G. Standard Conditions	Yes	No	N/A
1. Does the **permit** contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?			

List of Standard Conditions – 40 CFR 122.41

Duty to comply
Duty to reapply
Need to halt or reduce activity not a defense
Duty to mitigate
Proper O & M
Permit actions
Property rights
Duty to provide information
Inspections and entry
Monitoring and records
Signatory requirement
Bypass
Upset
Reporting Requirements
Planned change
Anticipated noncompliance
Transfers
Monitoring reports
Compliance schedules
24-Hour reporting
Other non-compliance

2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?			

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Review Checklist – For Non-Municipals

(To be completed and included in the record for all non-POTWs)

II.A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the fact sheet **or** permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

II.B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the fact sheet discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?	X		

II.C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ)	Yes	No	N/A
1. Is the facility subject to a national effluent limitations guideline (ELG)?		X	
a. If yes, does the record adequately document the categorization process, including an evaluation of whether the facility is a new source or an existing source?			
b. If no, does the record indicate that a technology-based analysis based on Best Professional Judgement (BPJ) was used for all pollutants of concern discharged at treatable concentrations?	X		
2. For all limits developed based on BPJ, does the record indicate that the limits are consistent with the criteria established at 40 CFR 125.3(d)?	X		
3. Does the fact sheet adequately document the calculations used to develop both ELG and /or BPJ technology-based effluent limits?	X		
4. For all limits that are based on production or flow, does the record indicate that the calculations are based on a "reasonable measure of ACTUAL production" for the facility (not design)?			X
5. Does the permit contain "tiered" limits that reflect projected increases in production or flow?		X	
a. If yes, does the permit require the facility to notify the permitting authority when alternate levels of production or flow are attained?			
6. Are technology-based permit limits expressed in appropriate units of measure (e.g., concentration, mass, SU)?	X		

II.C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ) – cont.	Yes	No	N/A
7. Are all technology-based limits expressed in terms of both maximum daily, weekly average, and/or monthly average limits?		X	
8. Are any final limits less stringent than required by applicable effluent limitations guidelines or BPJ?		X	

II.D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	X		
2. Does the record indicate that any WQBELs were derived from a completed and EPA approved TMDL?		X	
3. Does the fact sheet provide effluent characteristics for each outfall?	X		
4. Does the fact sheet document that a "reasonable potential" evaluation was performed?	X		
a. If yes, does the fact sheet indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?	X		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?		X	
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?	X		
d. Does the fact sheet indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations where data are available)?		X	
e. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?	X		
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	X		
6. For all final WQBELs, are BOTH long-term (e.g., average monthly) AND short-term (e.g., maximum daily, weekly average, instantaneous) effluent limits established?			X
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	X		
8. Does the fact sheet indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?	X		

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters?	X		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	X		
3. Does the permit require testing for Whole Effluent Toxicity in accordance with the State's standard practices?	X		

II.F. Special Conditions	Yes	No	N/A
1. Does the permit require development and implementation of a Best Management Practices (BMP) plan or site-specific BMPs?		X	
a. If yes, does the permit adequately incorporate and require compliance with the BMPs?			
2. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
3. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?	X		

II.G. Standard Conditions	Yes	No	N/A
1. Does the **permit** contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	X		

List of Standard Conditions – 40 CFR 122.41

Duty to comply
Duty to reapply
Need to halt or reduce activity not a defense
Duty to mitigate
Proper O & M
Permit actions
Property rights
Duty to provide information
Inspections and entry
Monitoring and records
Signatory requirement
Bypass
Upset
Reporting Requirements
Planned change
Anticipated noncompliance
Transfers
Monitoring reports
Compliance schedules
24-Hour reporting
Other non-compliance

2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for existing non-municipal dischargers regarding pollutant notification levels [40 CFR 122.42(a)]?	X		

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Part III. Signature Page

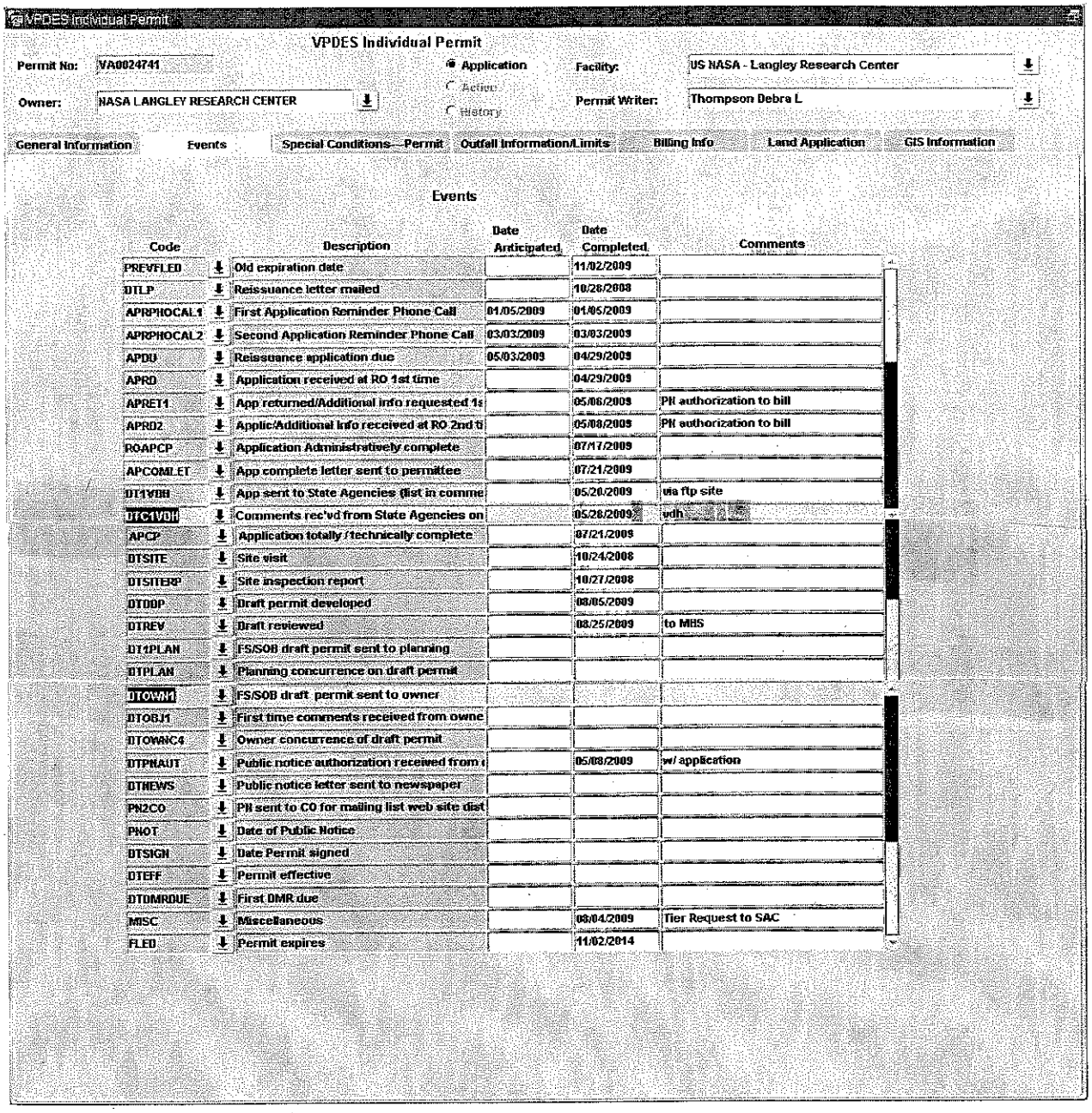
Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	Debra L. Thompson
Title	Environmental Engineer Sr
Signature	Debra L. Thompson
Date	August 3, 2009

ATTACHMENT 14

CHRONOLOGY SHEET

14-1



VPDES Individual Permit

VPDES Individual Permit

Permit No: VA0024741 — Application / Action / History — Facility: US NASA - Langley Research Center

Owner: NASA LANGLEY RESEARCH CENTER — Permit Writer: Thompson Debra L

General Information | Events | Special Conditions - Permit | Outfall Information/Limits | Billing Info | Land Application | GIS Information

Events

Code	Description	Date Anticipated	Date Completed	Comments
PREVFLED	Old expiration date		11/02/2009	
DTLP	Reissuance letter mailed		10/28/2008	
APRPHOCAL1	First Application Reminder Phone Call	01/05/2009	01/05/2009	
APRPHOCAL2	Second Application Reminder Phone Call	03/03/2009	03/03/2009	
APDU	Reissuance application due	05/03/2009	04/29/2009	
APRD	Application received at RO 1st time		04/29/2009	
APRET1	App returned/Additional info requested 1s		05/06/2009	PH authorization to bill
APRD2	Applic/Additional info received at RO 2nd ti		05/08/2009	PH authorization to bill
ROAPCP	Application Administratively complete		07/17/2009	
APCOMLET	App complete letter sent to permittee		07/21/2009	
DT1VDH	App sent to State Agencies (list in comme		05/20/2009	via ftp site
DTC1VDH	Comments rec'vd from State Agencies on		05/28/2009	vdh
APCP	Application totally /technically complete		07/21/2009	
DTSITE	Site visit		10/24/2008	
DTSITERP	Site inspection report		10/27/2008	
DTDDP	Draft permit developed		08/05/2009	
DTREV	Draft reviewed		08/25/2009	to MRS
DT1PLAN	FS/SOB draft permit sent to planning			
DTPLAN	Planning concurrence on draft permit			
DTOWN1	FS/SOB draft permit sent to owner			
DTOBJ1	First time comments received from owne			
DTOWAC4	Owner concurrence of draft permit			
DTPNAUT	Public notice authorization received from i		05/08/2009	w/ application
DTNEWS	Public notice letter sent to newspaper			
PN2CO	PN sent to CO for mailing list web site dist			
PNOT	Date of Public Notice			
DTSIGN	Date Permit signed			
DTEFF	Permit effective			
DTDMRDUE	First DMR due			
MISC	Miscellaneous		08/04/2009	Tier Request to SAC
FLED	Permit expires		11/02/2014	